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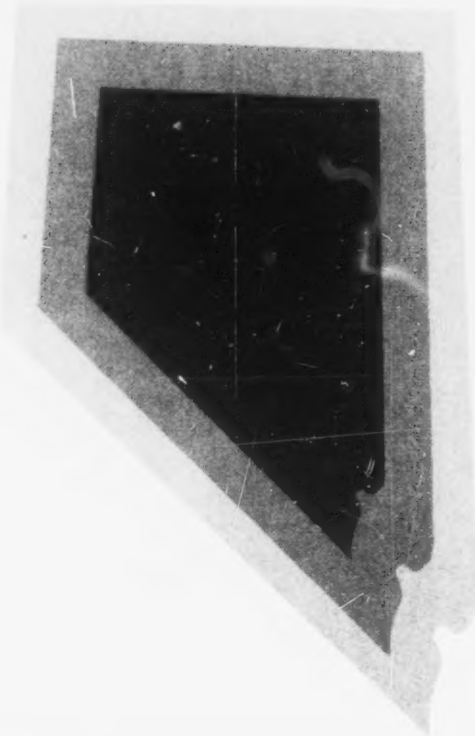

# NEVADA REVIEW of BUSINESS & ECONOMICS

## FALL 1981

*Bureau of Business & Economic Research*
*College of Business Administration*
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# The Washoe County Annual Econometric Model

*by John B. Hester and William E. Rosen**

**Introduction**

The Bureau of Business and Economic Research, College of Business Administration, University of Nevada, Reno, and the Washoe County Department of Regional Planning have constructed an annual econometric model for Washoe County. The model is a state of the art interactive system of econometric equations which focuses on employment, wages, output, personal income, population, and other significant regional economic and demographic variables. The model will provide short (one year) to long range (ten year) forecasts for the Washoe County economy. The annual forecasts will be reviewed and updated on a quarterly basis.

Washoe County has experienced rapid economic growth, and therefore the region's structural economic relationships will likely change over time. Accurate forecasts depend upon careful estimates of the economy's structural relationships. In order to capture changes in the region's economic structure, the econometric model will be reestimated as new regional data become available.

The national economy is the driving (exogenous) force of the Washoe County Annual Econometric Model (WCAE Model). Forecasts for the exogenous variables are provided by the Wharton Econometric Forecasting Associates (WEFA). WEFA reports update annual forecasts for the exogenous variables on a quarterly basis.

The principal designer of the Wharton Model is Lawrence Klein, the distinguished Nobel Laureate. Klein's success with the Wharton Annual and Industrial Model (WAIM) has led to its recognition as one of the most prominent forecasting models in the nation. WAIM is used extensively by the public and private sectors for regional econometric modeling, regional economic planning, and regional economic forecasting.

The need for the Washoe County Annual Econometric Model is considerable. The model can analyze the short and long run impacts of various internal shocks (impact analysis). Public and private sector finance analysis and projections can be linked to the model's economic and demographic forecasts. (A user's manual will be made available to the public.) These are but some of the model's many potential uses. In summary, the economic and population forecasts will be quite helpful in the design of efficient public and private sector policies.

Section II of this article contains a brief description of the model's structure. Section III discusses the accuracy of the model, and Section IV presents some initial long run forecasts for Washoe County. Initial forecasts for 1982 will be reported in the Winter 1981-1982 issue of this journal.

**Structure of Overview**

The Washoe County Annual Econometric Model consists of four interactive blocks: (1) Income Accounts, (2) Product Accounts, (3) Employment Accounts, and (4) Demographic Accounts. The economic blocks (blocks 1, 2, 3) describe the underlying structure of the economy for each of the ten aggregate local sectors. These sectors are contract construction, mining, manufacturing, transportation and public utilities, wholesale/retail trade, finance/insurance/real estate (FIRE), services, federal government, state and local government, and agriculture. The demographic block is designed to forecast unemployment rates, the level of unemployment, the number of households, the total labor force, and the population by sex and various age groups.

A major characteristic of the model design is the specification of a simultaneous link between the population cohort survival model (in the demographic block number 4) and the full scale regional econometric model (blocks 1, 2, 3). This specification allows the population block to affect the region's economic performance while the region's economy simultaneously influences the level of population.

The blocks are estimated over the sample period 1965-1979. The estimated equations in each block represent the structural relationships of the economy. The equations were initially estimated using ordinary least squares (OLS). However, time series models are often plagued with problems of serial correlation, and OLS is inappropriate. An appropriate estimation procedure is the Cochrane-Orcutt method. Those equations in which the Durbin-Watson statistic indicated serial correlation were reestimated using the Cochrane-Orcutt procedure.

The coefficient estimates have the expected signs, and the t statistics are generally very significant. The adjusted $\bar{R}^2$'s are typically greater than .90, indicating that better than 90 percent of the variation in the independent variable is explained by the estimated equation.

The estimation results imply that Washoe County wage rates do not increase as fast as national wage rates: a one percent increase in national wage rates induces less than a one percent increase in local wage rates. Washoe County is

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a relatively high growth rate economy. Associated with this is a rapidly growing labor force, which helps lessen overall wage growth rate pressure.

Estimation of the output equations allows us to test which sectors are basic, non-basic, or mixed basic/non-basic. Those sectors which are believed to be primarily basic are linked to national output of that sector or national GNP. The underlying assumption is that regional production is a share of the national output of that sector (market share approach), and/or is responsive to national levels of aggregate demand.

Some sectors are essentially non-basic. These sectors are primarily linked to local economic conditions, such as per capita personal income, and/or the economic activity of other specific local sectors.

Other sectors may exhibit both basic and non-basic characteristics. These sectors will be responsive to both local and national influences. Agriculture, mining, and manufacturing correlate closely with national economic factors, and as such can be considered basic sectors. A one percent increase in the national output of these sectors, respectively, induces a greater than one percent increase in output locally. This is consistent with the image of Washoe County as a rapidly growing region.

The services, wholesale/retail trade, and transportation/communication/public utilities (TCPU) sectors are responsive to both national and local economic forces, and are therefore classified as mixed basic/non-basic sectors.

Non-basic sectors include FIRE, state and local government, and for the most part, construction. Construction output is sensitive to national interest rates, and in a sense could be considered a mixed basic/non-basic sector.

**Accuracy of the Model**

Tests of the stability and accuracy of the model are reported in this section. Stability can be examined by testing the ability of the system of equations to converge to a system-wide solution set for the endogenous variables. The endogenous variables solution set will subsequently be used to check the model's accuracy.

To verify the accuracy of the model, the equation system can be solved for its reduced form structure. However, the reduced form is not appropriate because the model is characterized by non-linear equations and non-linear structural relationships. This necessitated the use of the Gauss-Seidel interactive technique.

In sample ex ante simulations of the model were performed for each of the fifteen years in the sample. Ex ante simulation provides a stringent test of the model. As a starting point, we pre-chose a set of endogenous variables for 1965 and derived predicted (forecasted) 1965 endogenous solutions. The 1965 solutions were then used to predict the 1966 endogenous variables, and so on down the line. We employed a .5 convergence criteria to derive the annual system solutions.

The iterative solution values were compared with the actual sample data to check the model's accuracy. A summary statistic which measures the degree of accuracy is the mean absolute percent error, or MAPE. The error is measured as the difference between the actual and predicted (forecasted) endogenous variable solutions.

TABLE 1

**Mean Absolute Percent Error for the Endogenous Variables: Ex Ante Simulations (1965-1979)**

| VARIABLE | MAPE |
|---|---|
| Wage Rate: Contract Construction | 3.39 |
| Wage Rate: Manufacturing | 1.80 |
| Wage Rate: TCPU | 1.53 |
| Wage Rate: Wholesale/Retail | 3.84 |
| Wage Rate: FIRE | 7.74 |
| Wage Rate: Services | 2.37 |
| Wage Rate: Federal Government | 5.24 |
| Wage Rate: State and Local Government | 5.46 |
| Total Washoe Wage Bill | 4.96 |
| Social Security Income (Washoe County) | 10.07 |
| Other Income Sources (Washoe County) | 7.20 |
| Personal Income (Washoe County) | 4.60 |
| Output: Contract Construction | 14.40 |
| Output: Manufacturing | 6.22 |
| Output: TCPU | 3.20 |
| Output: Wholesale/Retail | 2.50 |
| Output: FIRE | 9.60 |
| Output: Services | 5.20 |
| Output: Federal Government | 8.90 |
| Output: State and Local Government | 13.50 |
| Gross Regional Output | 5.03 |
| Employment: Contract Construction | 15.60 |
| Employment: Manufacturing | 5.40 |
| Employment: TCPU | 4.18 |
| Employment: FIRE | 6.93 |
| Employment: Services | 4.21 |
| Employment: State and Local Government | 24.90 |
| Total Washoe County Employment | 4.08 |
| Number of Washoe County Households | 4.12 |
| Unemployment Rate | 12.20 |
| Number of Unemployed | 10.17 |
| Total Washoe County Labor Force | 4.05 |
| Total Washoe County Population | 2.97 |
| Washoe County Income Per Capita | 2.68 |

MAPE values for the system's endogenous variables are reported in Table 1. The majority of the MAPE's are less than six percent, indicating that the predicted and actual values differed by six percent or less over the fifteen year period. These MAPE values are very encouraging, particularly for an economy as small and rapidly growing as that of Washoe County.

Sectors with relatively large MAPE's are contract construction and the government sectors. Economic activity in the government sector is politically determined, and consequently it is expected that economic models will be imprecise predictors of government activity. The construction sector is very sensitive to local and national economic swings and to the discontinuous bursts of gaming construction growth that have previously characterized the Washoe County economy.

The overall accuracy of the model's four major blocks is summarized by the MAPE's for gross regional product, total wage bill, total employment, and total population. The MAPE values for these blocks are 5.03, 4.96, 4.08, and 2.97, respectively. These MAPE's indicate that there is a high degree of stability and accuracy for the overall model.

Population forecasts are critical for planning purposes. The population MAPE of 2.97 implies that the model is an accurate population forecaster. This degree of accuracy is one of the major achievements of the model.

TABLE 2

**Employment Distribution by Sector: 1980 and 1990**

| | 1980% of Total | 1990% of Total | Charge |
|---|---|---|---|
| Agricultural Serv. | 0.4 | 0.2 | -0.2% |
| Mining | 0.7 | 2.2 | +1.5% |
| Construction | 5.6 | 4.5 | -1.1% |
| Manufacturing | 7.0 | 16.5 | +9.5% |
| Trans., Comm., Util. | 7.1 | 3.8 | -3.3% |
| Wholesale & Retail | 22.1 | 14.7 | -7.4% |
| Fin., Ins., Real Est. | 5.2 | 4.5 | -0.7% |
| Services | 38.1 | 45.1 | +7.0% |
| Government | 13.7 | 8.4 | -5.3% |
| TOTALS | 99.9 | 99.9 | |

Note: Totals may not equal 100% due to rounding.

**Long Run Forecast Summary**

The forecasts show generally healthy economic growth for the Washoe County region over the 1981-1990 period. The unemployment rate, which was approximately 4.5% in 1980, is expected to peak in 1982 and again in 1985 at approximately 5.8%, while dropping to 5.1% in 1988. By 1990 it is forecasted to be approximately 5.2% which represents a total of approximately 9700 unemployed persons compared to 4900 in 1980. Because the labor force is expected to increase from approximately 107 thousand persons to 188 thousand over the same period, the rate of unemployment is relatively low. Although labor force participation rates, especially for females, are expected to increase, total population is forecasted to increase from 193.6 thousand in 1980 to 323.1 thousand in 1990. Hence, growth in jobs is expected to be greater than the natural increase in population and labor force. This is reflected by the fact that establishment based employment increases from a 1980 level of about 116 thousand to about 229 thousand in 1990. The conceptual difference between household and establishment based employment, which accounts for multiple job holders and commuting out of the county, is expected to increase from about 13 thousand in 1980 to 52 thousand in 1990.

Anticipated structural changes in the regional economy can be detected by comparing the 1980 and 1990 employment distributions of the various sectors. These are illustrated in Table 2.

A negative charge (Table 2) does not indicate that a particular sector is declining in real employment. All sectors are expected to grow, though at differing rates. The negative charge implies that a sector will make up a smaller percentage of the economy (in terms of labor force) in 1990 than it did previously in 1980.

As the figures in Table 2 indicate, services is predicted to remain the predominate sector in the economy, but manufacturing is expected to more than double its share of total employment. The change in the services share of total employment is a reflection of a concomitant change in the forecasted share of nominal output in services for the U.S. However, the change in manufacturing at the regional level is in the opposite direction of the forecasted change in nominal output in manufacturing at the national level. Nevertheless, in comparison to the nation, the region will still have a lower share of manufacturing as a percent of total. The regional level changes in mining and trade reflect a movement toward a structure more similar to that of the nation. In general, the regional economy is expected to become more like that of the nation except that the continued growth in the national services sector will be reflected at the regional level by the continued dominance of the services sector.

# Characteristics of Nevada Exporting Firms And Their Contributions to Employment

*by Kyung-Il (Ed) Ghymn**

## INTRODUCTION

The world has witnessed some dramatic changes in international trade during the last two decades. Innovations in communications, transportation, production technology, and marketing know-how have converted national markets into a "one-market" world economy. As a result, the total value of world trade has soared to about a trillion dollars per year. U.S. exports increased from $20 billion in 1960 to over $180 billion in 1980, while corresponding imports rose from $15 billion to over $200 billion [2].

Although the United States has been experiencing deficits in its international balance of trade since 1971, it is still the largest trading country in the world, accounting for about 13% of the world total. American exports of $180 billion (1980) was 7% of GNP (Gross National Product) for that year [1]; this compares with exports amounting to less than 4% of GNP in 1969.

Nevada has shared in this impressive growth of international trade. The state's exports of manufactured goods rose from a mere $7 million in 1972 and $27 million in 1976 [4] to $104 million in 1979, an increase of 1,386% since 1972.

Nevada is renowned for its gaming industry which is the "king pin" of its economy. But the state's international trade and its significance have not attracted the attention deserved. The purpose of this study is two-fold: (1) to explore and identify characteristics of exporting firms in Nevada; and (2) to determine and measure their economic effect, especially their contribution to the level of employment in the state.

The study has economic and political policy implications since achieving a measure of economic diversification is one of the goals set for the state. The findings of this study may be input for a plan of diversification.

## METHODOLOGY

A structured questionnaire and follow-up telephone reminder were the main devices for the data collection.

TABLE 1

**Export Firms by Industry**

| Industry | Number of Firms | Percentage |
|---|---|---|
| Manufacturing | 90 | 70 |
| Wholesale Distribution | 22 | 17 |
| Services (Trade Related) | 10 | 8 |
| Retail | 5 | 4 |
| Mining | 2 | 2 |
| Total | 129 | 101%* |

*Percentage does not equal 100% due to rounding

TABLE 2

**Nevada Export Firms by Business**

| Business | Number of Firms | Percentage |
|---|---|---|
| Export | 83 | 64 |
| Export and Import | 22 | 17 |
| Contract/Services/Licensing | 16 | 12 |
| Import | 6 | 5 |
| Other (Mining) | 2 | 2 |
| Total | 129 | 100% |

TABLE 3

**Nevada Export Firms by Employment**

| Number of Employees | | Number of Firms | | Percentage |
|---|---|---|---|---|
| 1 - 24 | | 76 | | 59 |
| 25 - 49 | 105 | 16 | 82% | 13 |
| 50 - 99 | | 13 | | 10 |
| 100 - 249 | | 18 | | 14 |
| 250 - 999 | | 5 | | 4 |
| 1000 and Over | | 0 | | 0 |
| Total | | 128* | | 100% |

*One firm is excluded from the total 129 respondents due to missing information

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## TABLE 4

### Nevada Export Firms by Sales (Annual Gross): Northern and Southern Nevada

| | Northern Nevada | | Southern Nevada | | Total | |
|---|---|---|---|---|---|---|
| Sales in Dollars | Number of Firms | Percentage | Number of Firms | Percentage | Number of Firms | Percentage |
| $ 10,000 - $100,000 | 13 | 13 | 4 | 29 | 17 | 15 |
| $100,000 - $250,000 | 7 | 7 | 0 | 0 | 7 | 6 |
| $250,000 - $500,000 | 11 | 11 | 2 | 14 | 13 | 12 |
| $500,000 - $1,000,000 | 21 | 21 | 2 | 14 | 23 | 20 |
| Over 1 million | 47 | 48 | 6 | 43 | 53 | 47 |
| Total | 99 | 100% | 14 | 100% | 113* | 100% |

*15 firms were excluded from the total firms surveyed due to missing information on sales.

Early in 1980, questionnaires were mailed to a total of 259 exporting firms of which 233 were listed in the 1979 *Nevada Export Directory*, and 26 were newly established since the directory was published. The new ones were identified through the Reno District Office of Industry and Trade Administration, U.S. Department of Commerce. About 90% of the firms contacted responded to the questionnaire. The surveyed firms were informed that the completed questionnaires would provide data for updating the *Nevada Export Directory*.

Although 232 firms responded, our analysis was based on a sample of 129 questionnaires. A total of 103 respondents were excluded for the following reasons: 62 indicated that although they were listed in the directory, they had not begun direct exporting, 23 had withdrawn from the export aspect of their business, and 18 did not provide the requested export data. An analysis of firms not responding to the survey questionnaire revealed that either their businesses were no longer in operation or they had moved to other states. Responses to the principal questions were tallied and classified into meaningful categories.

## FINDINGS

### Characteristics: Industry and Business

Table 1 indicates that among the 129 export companies, manufacturing is the predominant classification, accounting for 70% of the companies, followed by the wholesale distribution classification, 22%, and the service industry 10%. Table 2 shows that 64% of the firms are in the export business, while 17% combine importing and exporting; therefore, of the 129 respondents, 80% are in the export-import business.

Nevada's exporters of agricultural commodities were excluded from our study because of the difficulty of locating business firms of farm orientation. Also, the state's volume of sales and percentage share of agricultural exports is very small. For example, in 1977, Nevada's overseas sales of farm products totaled only $10 million of which hides and skins, lard and tallow, and vegetable products each amounted to $2 million. Smaller shipments were made of wheat, flour and mein [4, p.3].

Table 3 shows the size distribution of the respondents by number of employees. Most of the respondents are "small business" companies; 115 (82%) employ less than 100 people, and none employs more than 1,000 workers.

Table 4 indicates size distribution by volume of sales, with a breakdown for northern and southern Nevada respondents. It is notable that 47% of the companies reported an annual gross sales volume of $1 million or more. This finding was unexpected in view of the fact that only 18% of the firms surveyed have 100 employees or more.

Table 4 also shows that 99 exporting companies, 88% of the respondents, are listed in northern Nevada (Reno, Sparks, and Carson City area), and only 14 companies, 12% of the respondents are in southern Nevada (Clark County).

As indicated in Table 5, 47 of the northern Nevada responding firms (47.4%) and 6 respondents in southern Nevada are in the "over $1 million" in the sales category (domestic and export sales). Firms in this category account for more than 94% of the total sales of the respondents. A notable observation was that combined sales of five respondents exceeded $100 million.

## TABLE 5

### Total Estimated Sales (Annual Gross) for All Exporting Firms

| Sales Volume | Mean* | Number of Firms | Estimated Sales |
|---|---|---|---|
| **Northern Nevada:** | | | |
| $ 10,000 - $100,000 | $ 55,000 | 13 | $ 715,000 |
| $100,000 - $250,000 | 175,000 | 7 | 1,225,000 |
| $250,000 - $500,000 | 375,000 | 11 | 4,125,000 |
| $500,000 - $1,000,000 | 750,000 | 21 | 15,750,000 |
| Over $1 million | | | |
| (unknown) | 3,000,000** | 16 | 48,000,000 |
| Over $1 million | 47 | | |
| (known)*** | | 31 | 316,600,000 |
| Total for Northern Nevada | | 99 | $386,415,000 |
| **Southern Nevada** | | | |
| $ 10,000 - $100,000 | 55,000 | 4 | 220,000 |
| $100,000 - $250,000 | 175,000 | 0 | -0- |
| $250,000 - $500,000 | 375,000 | 2 | 750,000 |
| $500,000 - $1,000,000 | 750,000 | 2 | 1,500,000 |
| Over $1 million | | | |
| (unknown) | 3,600,000 ** | 2 | 7,200,000 |
| Over $1 million | 6 | | |
| (known)*** | | 4 | 55,800,000 |
| Total for Southern Nevada | | 14 | $ 65,470,000 |
| Total Estimated Sales for Nevada | | 113 | $451,885,000 |

*: Mean value here is the mid-point of the sales volume category.

**: Firms whose annual gross sales reached over $1 million were asked to indicate approximate sales volume in the questionnaire. (Unknown) means those who did not indicate their sales estimates and their mean value is based on our follow-up telephone interview estimates.

***: (Known) estimates are the sum of sales information given in the questionnaire.

## TABLE 6

### Number of Years Nevada Firms Involved in International Trade

| Years of Experience | Number of Firms | | Percentage |
|---|---|---|---|
| Less than one year | 16 | | 12% |
| 1 to 5 years | 45 | 72% | 35% |
| 6 to 10 years | 32 | | 25% |
| 11 to 20 years | 15 | | 12% |
| 21 and over | 21 | | 16% |
| Total | 129 | | 100% |

### Years of Experience in International Trade

Most of the respondents entered international trade recently. Table 6 indicates that 72% of the respondents had 10 years of experience or less in international trade aspects of business. This finding for Nevada is consistent with the national trend of very rapid expansion of international trade during the 1970s.

### Jobs Created by Export Activities

On the national scene about 5% of the total private sector employment is directly or indirectly related to exports. For the manufacturer's sector it is estimated to be about 9% and for the agriculture it is 13%.[5] According to the U.S. Department of Labor estimates, each $1 billion in exports supports about 30,000 jobs in the United States. Stated differently, $33,333 in exports equals one full-time job for Americans. In addition, jobs in export industries support allied industries and create additional employment. The Department of Labor estimates that, on the average, for every job directly involved in producing export items, almost one more job is involved indirectly. [5. p.10]

In 1972, revenue in Nevada from manufactured goods exported was a mere $7 million which generated 210 jobs and in 1976, Nevada's exports of manufactured goods rose to $27 million, a 286% increase, which supported 818 full-time jobs. In 1979, total export sales were estimated to be over $104 million, an increase of 1,386% since 1972 and 3,124 full-time employment positions are estimated to be export-related in Nevada. The basis for these estimate figures is shown in Table 7.

## TABLE 7

### Export Value and Export-Created Jobs for Nevada

| | |
|---|---|
| Total Estimated Sales of All Exporting Firms (from Table 5) | $451,885,000 |
| Export percentage | 23%* |
| Export value | $103.885,000 |
| Export Created jobs: $103,933,550 ÷ $33,300 = | 3,124 |

*Export percentage of annual gross sales is a stratified weighted average of export proportions given by the participating firms. The stratification is based on firm's sales categories.

The significance of the export-created jobs can be measured in relation to other industrial labor forces in the state. The total labor force in manufacturing in early 1980 was 20,300 in Nevada [3]. Thus, 3,124 jobs generated by exporting manufactured goods accounted for 15% of the state's manufacturing labor force. About 1 of every 6.5 manufacturing jobs in Nevada is dependent upon exports. This is a substantial increase as compared to the 1970 figure of about 1 out of every 15 manufacturing jobs in the state.

Nevada firms' world business scope is wide and diversified. Their overseas markets are in 56 countries in all continents and include some Eastern Bloc countries (see Appendix).

Of 53 major exporting firms, two manufacturers, Bently of Nevada and Lynch Communications are the single most important exporting firms in terms of their employment contribution to the state. Each company has about 900 employees and based on their 1979 overseas sales, it is estimated that exports of the two firms have generated about 800 full-time jobs.

## SUMMARY AND CONCLUSION

The rapid expansion of world trade since 1960 suggests the development of a multinational enterprise system. The value of Nevada's foreign exports increased from a mere $7 million in 1972 to $104 million in 1979. During the same period, export-related jobs rose from about 800 to 3,124, an increase of 1,386 percent.

A comparison of characteristics of Nevada's exporting firms with those of other states is difficult due to lack of data. However, there are some noteworthy characteristics of the firms surveyed in Nevada. They are largely manufacturing companies which recently entered international trade (10 years experience or less); most of the firms are small in size, measured by number of employees.

Apparently the prosperity of the United States will depend increasingly on its performance in foreign trade. Increasing Nevada's participation in foreign trade should be incorporated into the state's plan for economic diversification.

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***References:***

[1] Buch, Joshua, "U.S. Trading Partners", *Trade Look, September/October, 1980, p. 17.*

[2] *Federal Reserve Bulletin,* December 1980, A53.

[3] *Nevada Review of Business and Economics,* Summer 1980, p. 24.

[4] *State Export Series,* U.S. Department of Commerce, 1979, p. 12.

[5] *The Trade Debate,* Department of State Publication 8942, Office of Public Communication, 1979, p. 10.

## APPENDIX

### Countries to which Nevada Firms Export (in order of trade frequency)

1. Canada
2. England
3. Australia
4. Germany
5. Japan
6. France
6. Mexico
8. Sweden
9. Hong Kong
10. Saudi Arabia
11. South Africa
12. Taiwan
12. Switzerland
14. New Zealand
15. Philippines
16. Norway
16. Argentina
16. Italy
19. Spain
19. Holland
19. Israel
23. Egypt
23. Brazil
25. Belgium
25. Korea
27. Singapore
27. Honduras
27. Ireland
27. Indonesia
27. Greece
27. Chile
27. Venezuela
27. Caribbean nations
27. Panama
36. Libya
36. Malaysia
38. Denmark
38. Austria
38. Finland
38. Guam
38. Nigeria
38. Fiji
38. Nicaragua
38. Guatemala
38. Haiti
38. Tahiti
38. Yugoslavia
38. Sri Lanka
38. Puerto Rico
38. Iran
38. Thailand
38. Oman
38. Peoples Republic of China
38. United Arab Emirate
38. Pakistan

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*Numerical numbers are rank order of trade frequency and the repeated numbers mean a tie score in the rank order.

# Deregulation and Monetary Control Fifteen Months Later

*by Thomas F. Cargill and Gillian G. Garcia**

[Editor's Note: This article is a sequel to "The Deregulation and Monetary Control Act of 1980," which appeared in the Spring-Summer, 1981 issue of this journal. It is an update of Chapter 10 of *Financial Deregulation and Monetary Control,* written by Cargill and Garcia, to be published by the Hoover Institution Press, Stanford University.]

It is more than a year since the Depository Institutions Deregulation and Monetary Control Act was passed. It is now possible, therefore, to evaluate the progress that has been made in the interim. During the past fifteen months there appear to have been two phases for an evaluation of the Act's impact. A first impression was that a sharp break with the past was being achieved. The Act's emphasis toward deregulation appeared contrary to the history of the past 50 years during which increasing regulation had been imposed in response to the lessons of the Great Depression.

The Act offers a new opportunity to achieve seven goals: (1) to promote the viability of depository institutions, (2) to increase the efficiency of the financial system (and to provide a wider and better range of services to customers), (3) to encourage greater equity and opportunity for the small saver, (4) to stimulate saving, (5) to allow the market to choose the allocation of capital (perhaps by giving less preference to housing and more to re-industrialization), (6) to end the periods of credit-rationing and disintermediation[1] in the supply of finance to the housing industry and elsewhere, and finally (7) to insure the efficacy of monetary policy.

Achievement of these specific objectives of the Act would contribute to establishing a financial structure that would better fulfill its three basic functions in the economy in providing: an efficient flow of funds between lenders and borrowers, stable financial markets and institutions, and an adaptable financial structure.

## PROGRESS TO DATE

As the Act's first anniversary has recently passed, however, a second observation can be made. Improvements have been slow to materialize. Some things have changed, of course; for example, the process of extending reserve requirements to all depository institutions has begun and NOW accounts are being offered nationwide. But these developments appear slight in comparison to the magnitude of the changes needed to achieve the Act's objectives.

The slow pace of progress can be attributed to several factors, some of which are specifically related to recent economic conditions and some which arise more generally from the impediments to change in a bureaucratic system. To the first group of factors belong the continually high and variable interest rates of the past year that have generated a belief that the current economic environment is not conducive to removing the competitive constraints on the financial system. Depository institutions, especially thrifts, have a large inventory of low yielding mortgages that puts them in poor position to pay high market rates of interest on their deposits. Also, the thrifts' inability to match the maturity of their assets and liabilities exposes them to a risk of incurring losses at times when rates are volatile. While the severity of these problems might be disputed, it does appear that the "thrift problem" has been a binding constraint on deregulation.

The presidential election and the shift in power from the Carter to the Reagan administration is another element in this first group of factors retarding deregulation. The political transition created an environment of political uncertainty among federal regulators. They postponed action until they were provided with guidance from the new leadership on the strategy to be adopted over the next four years.

The second group of factors concerns the workings of bureaucracy. The regulatory framework that developed during the past five decades created considerable artificial heterogeneity among financial institutions within their protected markets. This heterogeneity put the different segments of the financial services industry in conflict over proposed regulatory changes. The DIDC[2] has become the forum where the interests of the different groups are reconciled. Here the Act itself was partly to blame in that it did not give unambiguous guidance on the priorities to be established. Indeed, it itself was not always consistent in its objectives. For example, while calling for deregulation and removal of interest rate ceilings, the Act cautions against causing adverse impacts on the thrift industry, which supplies the major portion of the housing industry's funds.

In short, the Act and the DIDC have failed to come to grips with two important issues—how is the viability of

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financial institutions to be determined and what is the role of housing in the process of deregulation? When answers to these questions are not clearly prescribed, the views of all parties to the debate become important. Such a situation allows the regulated to claim "property rights" to those regulations which provide them with advantages over their competitors. The institutions then presume that such rights will continue. In the past, it has taken a financial crisis or the immediate threat of serious disruption to override that presumption. Fears of such a crisis permitted the Act to be passed, but in the year following the passage, the threat of an economic crisis receded and the conditions which would have allowed the regulators to agree voluntarily on regulatory adjustments were removed.

Despite the low level of activity for the year following the passage of the Act, the momentum of progress picked up again at the commencement of the Act's second year. Then, both regulators and the market began to initiate some significant innovations. It appears that the intervening year had been needed for participants to assess both the political and the economic situation following the passage of the Deregulation Act and the change in the admininstration.

It is worth noting, however, that not all of the recent activity in the development of alternative financial services has come from the actions of regulators implementing the intent of the Act, but rather from market participants finding ways to work around the continuing restrictions. In short, the first year was one of uncertainty during which the market paused in the innovation process in order to see what deregulatory assistance would be forthcoming in the wake of the Act. As the year ended, however, participants decided that they would be disappointed if they waited any longer for the regulators and legislators to act. They are, therefore, once again, as throughout the 1970s, forcing the pace of the deregulatory process.

The contribution of the regulators toward these developments has been bureaucratic inertia which has permitted the market innovations (with a few exceptions) to continue. The regulators have shown a benevolent neutrality which has precluded the issuance of new regulations that would create new and controversial property rights among financial institutions.

## THE VIABILITY ISSUE

The problem of the viability of depository institutions will be discussed at considerable length, because it is considered to be the principal barrier to progress toward deregulation and several of other remaining issues. It appears that the removal of Regulation Q[3] has been held up by considerations that thrifts and, to a lesser extent, small banks, cannot afford any extra interest expense. Yet, while Q is in place, disintermediation continues to be a possibility which threatens deposit institutions; equity to the smallest saver is denied; the channels of monetary policy to influence behavior through changes in interest rates are partially blocked and policy continues to be effected, at least partially, through disintermediation and credit-rationing; and the freedom of the Federal Reserve to pursue anti-inflationary policies is constrained by the need to consider the effects on the fragile solvency of thrift institutions.

The solvency problem arises because thrifts in the past have issued mortgages at rates which are lower than the current market rates they now pay on many of their funds. Deposit institution assets and liabilities are valued in balance sheet statements at their issued price. The market value of bookable assets is, however, below the value of the liabilities—which are fixed in price. Kane (1981) has estimated that market value of S&Ls' mortgage portfolios is between 25 and 30 percent below their balance sheet value. Such implicit negative net worth can become explicit in one of two ways. First, an institution may lose deposits and be forced to liquidate its assets. If this were to occur, it would become insolvent. Second, industry regulators may reveal the problem by taking remedial action against the institution.

The causes and proposed solutions to this problem are essentially the same at banks and thrifts, but there are some differences between them. Consequently, the issues will be dealt with separately below.

### The Viability of Thrift Institutions

A final solution to the thrift viability problem demands regulatory action on five fronts. First, thrifts need to be able to retain their deposits against encroachments by banks or nondeposit institutions.[4] In the absence of disintermediation, time will then be available to tackle thrifts' longer-run problems. Second, thrifts need regulatory changes which will enable them either to avoid term structure risk or to impose profitable charges for its acceptance. Third, plans need to be made to deal with the backlog of old, low-yielding mortgages. Fourth, changes are needed in the operation of the deposit insurance scheme to prevent a recurrence of the solvency problem. Finally, some institutions' problems will not be addressed in time to prevent their insolvency. New attitudes with respect to failing institutions and new laws permitting mergers across state lines will be necessary to deal with the problem of thrifts that approach insolvency.

### Retaining Deposits

Thrifts need the ability to maintain the level of their liabilities in order to avoid selling assets at a loss. Three aspects of this problem will be discussed—the initiation of NOW accounts nationwide, the removal of Regulation Q, and question of competition from money market mutual funds are all relevant here.

### Preliminary Evidence on NOW Accounts

First, successful retention of deposits involves competing with banks. However, developments during the first quarter of 1981, when NOW accounts were first available nationwide, continue to give conflicting indications on their effects on the balance of competition between banks and thrifts. One the one hand, Federal Reserve data show that commercial banks held 32 percent of the NOW account volume on April 21, 1981. Further, a sample survey conducted by

Madison Financial Corporation of Nashville, Tennessee, showed that only 8 percent of the checking accounts which banks lost during the first quarter had closing balances of over $1,000. Such evidence suggests that banks were gaining the major share of the volume of the NOW balances and ridding themselves of their "lemon" accounts.

Yet, a closer look at the survey evidence suggests that these are wrong conclusions (Hill, 1981; Madison Financial Corporation, 1981). Forty-six percent of the savings and loan association NOW balances came as new money to the institutions; whereas only 7 percent of the banks' NOW balances represented new money. The majority of bank balances came as transfers from existing accounts. Whether the transfers were from demand deposits or savings accounts, the transfers would raise bank costs. Further, the mean NOW balance at savings and loan associations was $1,798, and the median value was $1,543, which data suggest that these accounts are significant in size. While there may be small, high cost accounts at the low end of the account distribution, the widespread imposition of minimum or average balance requirements aims to discourage very small accounts. Balances required at commercial banks are higher on the average than those required at S&Ls and indeed the mean size of NOW accounts is substantially higher at commercial banks ($5,807).

It would seem, therefore, that savings and loan associations are benefitting relatively to the commercial banks at the outset of the NOW experiment in that they are attracting more new consumer money. NOW accounts are estimated to cost between 8½ and 10 percent per annum in terms of interest and operating expense. This cost is considerably below the 15 to 18 percent average cost of liabilities purchased in the CD (certificates of deposit) or RP (repurchase agreements; repos) markets during this quarter. On the other hand, commercial banks have the advantage over S&Ls of retaining accounts of higher average size.

It would also seem that the balance at the closing of a commercial bank account is an irrelevant statistic. Rather than instantaneously opening one account and closing another, the depositor is more likely to open a NOW account, experiment with its use, and run down the old account as he gains confidence in the use of the new one. In short, it appears that savings and loan associations are winning the opening round of the bank-thrift contest for consumer accounts under the new game rules. The Federal Home Loan Bank Board's willingness to deregulate faster than the Federal Reserve Board, the FDIC (Federal Deposit Insurance Corp.) or the Comptroller of the Currency should strengthen the savings and loan associations' advantage.

### Regulation Q

Progress toward the removal of Regulation Q would alleviate disintermediation and provide equity to the smallest saver. Substantial progress against disintermediation has been made by the increasing use of managed liabilities and the permission to offer money market certificates (MMCs). However, it would be finally solved by the removal of Regulation Q. Only then will depository institutions be able to compete with MMMF's (Money Market Mutual Funds) or any other similar instrument.

However, there was effectively no progress toward the removal of Regulation Q during the year following passage of the Act. In the interim, while interest rates remained high, the thrifts presented, and the regulators accepted, the argument that they could not afford to pay market interest rates on small savings.[5]

Finally as the Act's first anniversary passed, the DIDC considered (DIDC, 1981), and then adopted, plans to remove interest rate restrictions over the remaining five-minus years to De-Q day. On August 1, 1981 ceilings were to be eliminated on longer-term time certificates and ceilings on successively shorter maturities will be removed each year until 1986. Under a second decision, the 12 percent ceiling on 2½ year money market certificates was to be removed also on August 1, 1981. Unfortunately, the S&L industry was able at the last minute to prevent the removal of any ceilings. S&Ls argued that the affected time deposits by law were subject to a differential interest rate ceiling in their favor and thus removal of the ceiling would eliminate the favorable differential.

The idea behind the proposals is to encourage savers to shift to certificates having longer holding periods in order to counteract the maturity-shortening of liabilities induced by the growth of six month money market certificates. The approach behind the first proposal appears to belong, however, to the traditional tactic of postponing the day of adjustment by the banks and thrifts to current market realities, because it does not enable depository institutions to compete with MMMFs. The second proposal to remove the cap on 2½ year, small-saver certificates might be a more effective step toward deregulation because these certificates have no minimum denomination. Nevertheless, they will not offer a substitute to MMMFs as long as consumers consider that interest rates may rise in the future. In the interim consumers will continue to prefer the shortest of maturities, and the flexibility offered by MMMFs. Only when consumers feel reasonably sure that interest rates will fall over the next 2½ years will they want to tie up their funds in such money market certificates. When this happens, of course, banks and thrifts will not want to offer them. In short, these proposals do not allow the institutions to compete with MMMFs.

An alternative scheme, to deregulate the passbook account, in order to create some highly liquid alternative that could compete effectively with MMMFs, was not adopted, although it would have been more favorable for consumers. In its absence, banks and thrifts are courting funds attracted to the MMMF market by issuing high-rate, uninsured consumer repos. This development continues the thrifts' strategy of price discrimination among its clientele. It is not clear that this approach will, in fact, prove more beneficial than a simpler deregulation of the passbook account or the granting of permission to banks and thrifts to offer money market mutual funds. Either development would most probably substantially decrease the volume of funds held as MMMFs outside deposit intermediaries. Then, the fact that MMMFs were unreserved would be less material to the question of fair competition among financial institutions. Since bank and thrift deposits carry a nominal return which is known with certainty and which has no risk of default, such a configuration makes them preferable for many people to MMMFs. Savings deposits would most probably carry in equilibrium a lower interest rate than MMMFs. This consideration should help banks and thrifts compete with their nondepository competitors, despite their costs in meeting reserve requirements and other regulatory impediments. Furthermore, the deregulation of the passbook account would give consumers the opportunity to choose financial instruments which suit their preferences as to risk, return, and liquidity and to move among the instruments as conditions change.

All of the proposals discussed by the DIDC threaten to incur the wrath of those depositors who are already trapped into holding time certificates which will remain regulated and require an interest penalty to gain early withdrawal. Thus, the immediate removal of Regulation Q, on both new and old deposits and certificates, would seem preferable for consumers. It would, however, be more costly for the thrifts, which would then be forced to adjust the more quickly to the high explicit cost of funds. Current (July 1981) market rates of interest are high enough to justify removal of the ceilings as is required by the Act; however, such a radical solution does not seem feasible given concerns for the viability of bank and thrift institutions.

In this situation, with the end of the Deregulation Act's first year, the deposit institutions appeared to have decided that the DIDC lacked deregulatory fervor. Thus, while some thrifts still attempted to retain their vested interest in low-cost core deposits through Regulation Q, others preferred to jettison Regulation Q by forcing their own path through the jungle of Reg Q rates to effect their redundancy and thus, ultimately, their elimination.

### Competition from MMMFs

The thrift problem was made more difficult because of disintermediation to the rapidly growing money market mutual funds. Perhaps the greatest deregulatory debate during the past fifteen months has concerned the extension of reserve requirements and other regulatory impediments to MMMFs. The schizophrenia of the Act over deregulation and control is being repeated in the debate over controlling MMMFs.

The recent introduction of the All Saver Certificate by the 1981 Tax Law represents a temporary measure to allow the thrifts a competitive edge over MMMFs. The All Saver Certificate is a one-year time certificate whose interest rate is equal to 70% of the one-year Treasury bill rate. Individuals holding such certificates may exclude up to $1,000 ($2,000 for a joint return) of interest income over the tax years 1981 through 1983, the time period during which depository institutions are allowed to offer these special tax-exempt certificates. While the All Saver Certificate may provide temporary relief to thrifts in their competition with MMMFs, it falls far short of a meaningful and effective remedy.

### Term Structure Risk[1]

Institutions need to be able to protect themselves from bankruptcy arising from term structure risk, by possessing the power to make mortgage contracts which will protect them from part, if not all, of the interest rate risk inherent in an inflationary environment. Such protection frequently involves passing such risk on to the consumer of financial services. It is not apparent that the consumer is better able to absorb the risk in the place of the financial intermediary. Traditionally, absorption of such risk has been part of the intermediary's role. Consequently, it may be preferable for intermediaries to continue to carry this risk, but to discontinue those regulations which prevent them from charging an economic price for the service.

Once the Act's first anniversary was passed, it became increasingly evident that substantial changes were indeed portending. The regulatory agencies have issued new regulations, more attractive to lenders, that govern the conditions for variable rate mortgages.[7] The adoption of these new mortgage instruments should restore the supply of intermediated mortgage credit. The fixed rate mortgage has been virtually abandoned by the banks and thrifts which have not replaced it with an alternative. The regulations concerning variable and renogotiable rate mortgages which had been established earlier, had proved popular with neither lenders nor borrowers. Thus, the situation has often arisen that the only way to sell one's house is to engage in "creative financing," that is, to put-up the money oneself or find other financing from private individuals. In short, the market is shifting back historically toward greater provision of housing credit from direct, rather than intermediated, sources.

Furthermore, where the new mortgages are adopted, they will only raise profitability when the old, low-yielding mortgages are replaced by new, higher-yielding ones. This replacement may be slow to proceed as the demand for new mortgages is limited. The limitation arises because the supply of finance for housing was unprecedentedly expensive in nominal terms, if not scarce. Consequently, many would-be buyers among those who anticipate that real, after-tax housing costs will continue to be low, are precluded from the market by their inability to meet the lenders' high income requirements for necessary loan qualification. Thus, during the year following the Act's passage, the new housing industry was depressed and the market for existing housing was severely curtailed.[8]

There is another problem which may delay solution of the problem of term structure risk exposure. The new Home Loan Bank Board and Office of the Comptroller regulations apply only to federally chartered institutions. State chartered intermediaries continue to operate under state rules, which in many cases are less favorable to the thrifts. Eventually, however, state regulations can be expected to copy the federal pattern. For where they do not match the federal opportunities, state institutions can be expected to shift to federal charters. Such a process is occurring, for example, in California in response to the Wellenkamp decision and other competitive disadvantages.[9] [10] In the Wellenkamp decision, the California Supreme Court ruled that "due on sale" clauses in mortgage contracts were not enforceable as they were an unreasonable restraint on alienation.

It has been remarked above that consumers of financial services may prefer intermediaries to continue to undertake interest rate risk. For this to be possible, regulations which prevent intermediaries from charging a fair price for this service need relaxation. Lister and Pennzer (1981), for example, argue that rules governing prepayment penalties on mortgages and early withdrawal penalties on time deposits need to be relaxed, so that thrifts can price their market value as options.

### The Backlog Problem

Many institutions will need assistance in dealing with the backlog of old, low-yielding mortgages if they are to avoid insolvency. The burden of old mortgages made at fixed, low-interest rates has been discussed by the DIDC, but no agreed approach to dealing with the problem has been advanced.[11] In the present era of high and volatile interest rates, the need to finance these commitments by borrowing short-term at higher rates, poses the threat of insolvency on the lenders.

Several solutions to the old mortgage problem are possible, however. Here they will be discussed in three groups: (1) plans under which the government purchases the stock of problem mortgages from the institutions, (2) plans which allow the institutions to keep them, but receive some relief in that process, and (3) plans which allow the banks and thrifts to rid themselves of the problem stock by reselling them in the secondary market.

Under the first scheme, the government could purchase the stock of old, low interest, fixed rate mortgages from the institutions at their face value. It could then keep them for resale either to the public or back to their originators, when interest rates have fallen. Such a "warehousing" suggestion has been made in the Thrift Task Force Study (1980). Alternatively, the government could buy the problem mortgages again at face value and resell them promptly at their market price and absorb the resulting capital loss immediately.

The substantial cost to the government of either scheme has been variously rationalized (and disputed) on the grounds that the government initially was responsible for the inflation that gave rise to the deposit institutions' losses and that thrift problems arose from enforced regulation. Nevertheless, it would seem likely that such a solution, involving a substantial burden on the budget, would be politically unacceptable. There are available alternative schemes which may involve less direct cost to the Treasury. These schemes are likely to be preferred by politicians and regulators. They may not, however, be the most advantageous to the economy at large.

Schemes belonging to the second group appear to be less costly in that they involve less direct and immediate expenditure by the Treasury. One such variant in this group would allow the banks and thrifts to retain the problem mortgages, which would limit the direct, capital cost to the Treasury. The Treasury, however, would then provide some form of subsidy to the institutions in proportion to their holdings of problem mortgages. For example, the subsidy could take the form of a direct Treasury supplement to the thrifts' interest revenue, or of a remission of taxes, or of a payment of interest on reserves required under the Monetary Control Act. The present proposal to allow thrifts to offer tax-free certificates earning 70 percent of market interest rates, belongs to this group of proposals. Here, the challenge in devising a good scheme would be to make it encourage the thrifts to rid themselves of the problem and not to subsidize them for continuing their unprofitable activities.

The third set of schemes offers solutions that entail both less capital-cost and less on-going cost to the Treasury. They have, however, other disadvantages, in that they impose hidden costs on the economy. Under one variant, the government could encourage the sale of problem mortgages by the deposit institutions directly into the secondary market. It could reduce or eliminate the capital loss for the institutions by artificially raising the demand for the problem mortgages, for example, by making the interest earnings of the purchasers exempt from taxation.[12] If the mortgages were to be bought by small savers, they would need to be packaged for resale and guaranteed along the lines currently followed by the federal housing finance agencies. In this way, the thrifts could continue to service the mortgages and, in the process, earn fees for their services.

This scheme would appear likely to be attractive to regulators and legislators as it involves no expenditure by the Treasury. Furthermore, it is not obvious that it would incur a loss of tax revenues by the Treasury. For the thrifts would not have been paying taxes on those mortgage holdings in the first place and it is not clear that the Treasury would lose tax revenue on the interest that would have been earned by consumers on the assets they would have held as alternatives to the tax-free mortgages instruments. Again, this scheme does not obviously penalize one section of the population at the expense of any other. It is, therefore, likely to be politically popular. It does, however, have the strong disadvantage that it masks the true cost of the bail-out on the economy. That cost would be borne by competitors for funds in the national capital markets. It would raise the demands on those capital markets and increase the interest rates needed to be paid on competing securities. However, if the plan also led to an increase in the supply of funds to the markets the scheme could, on balance, be advantageous. If freeing the thrifts from the burden of low-yielding mortgages, enabled Regulation Q to be removed, and if removing Regulation Q stimulated the supply of savings, the price of the bail-out might be justified.

### The Need for Action

The alternative to solving the mortgage backlog problem and the small bank funding problem is for the institutions to continue in business in anticipation that inflation and interest rates will be reduced, and mortgage rates so lowered that the backlog of old mortgages and other low-yielding loans is no longer a viability threat. This alternative would be preferable to giving a subsidy, as long as a financial crisis does not engulf the industry or its threat seriously impede progress toward deregulation.

Strong advocates of the free-market argue that the latent insolvencies should be explicitly recognized and allowed to occur. They consider that the efficient operation of the economy would best be served by allowing weak institutions to fail. Financial panic could be avoided by careful planning for mergers among the strongest of the problem institutions, and for insured demises among the rest. To date, however, regulators have lacked confidence in their ability to avoid financial panic in the event of a large number of failures among deposit institutions.

### Small Bank Viability

The problem of small bank viability differs somewhat from the problem facing thrifts; nevertheless, the five-pronged approach discussed above is still required. Like thrifts, small banks have problems of loans made at low and fixed rates, but typically the problem is not so serious as they are not so heavily dependent on long-term, mortgage loans. Consequently, their backlog problem should disappear sooner, without outside intervention. The small bank problem is rather one of heavy reliance on consumer funding. Passbook savings and small time deposits have increasingly been replaced by the more expensive and short-maturity, money market certificates. Thus, small banks are exposed to disintermediation and they typically have problems in purchasing funds in such instances in the nation's capital markets. Concern also exists that the old correspondent banking relationships, which have met these needs of small banks to some considerable degree in the past, are being disrupted in the post-Act environment.

Solutions to this problem have been suggested. Doll (1981), for example, has suggested governmental support for the creation of a private agency to allow small banks to co-operatively purchase funds in the capital markets and sell overline loans. The Visa proposal to issue money market certificates as described in the next section of the paper, and to channel the resulting funds to its member banks should also improve small banks' ability to acquire funds.

### The Pricing of Deposit Insurance

Deposit insurance confers default-free status on deposits up to $100,000 and plays a significant role in the intermediation process beyond providing protection to the deposit holder. For example, Kane (1981), Stephen Buser, Andrew Chen and Kane (1981) have shown that deposit insurance has substantial value to the insured institutions. The problem is that the cost of insurance coverage does not adequately reflect the risk incurred by the different institutions since premiums are based on a simple percentage of deposits with no recognition of risk. This risk under-pricing causes insured banks and thrifts to overexpand by generating a volume of deposits beyond the optimum size and to undertake undue risks. Consequently, even after Regulation Q and the threat of disintermediation have passed from consideration, after restrictions that prevent thrifts from adequately dealing with term structure risk are removed, and after the backlog of low-yielding mortgages has been eliminated, a problem of thrift viability may persist. For thrift managements lack the incentive to manage risk profitably. The rules governing the pricing of deposit insurance, therefore, need to be revised to remedy this problem.

The problem might be at least partially resolved by the adoption of the proposal to pay interest on deposit institution reserves (Cargill and Garcia, 1981, Chapter 8). To the extent that the volume of required reserves (now extended to all depository institutions) increases with the value of deposits, reserves will cause some of this risk to be shifted to the institutions. This consideration suggests that some progress toward the correct pricing of insurance services has already (albeit inadvertently) been made. It does not, however, mean that the problem of adequate pricing to reflect the risks incurred has yet been solved. The need to re-evaluate the present pricing system remains. The new policy must jointly consider the costs of reserve holding, the rewards from insurance coverage, and the risk inherent in any institution's portfolio.

If the cost of deposit insurance were, in fact, to make an explicit allowance for reserve holdings, then reserves would in fact be receiving a return. Then the arguments in favor of paying interest on reserves would be less persuasive.[13] At the same time, the problem to which Fama (1980) drew attention, of reconciling the conditions needed for efficiency in the provision of financial services with the need for an anti-inflationary scarcity of the reserve base, could also be somewhat less important.

### Mergers and Interstate Acquisition

The fifth aspect of dealing with the thrift viability problem is perhaps the most radical politically. The process of deregulation will require new attitudes from regulators regarding mergers, acquisitions, and interstate expansion of depository institutions. At present, a number of thrifts are facing serious liquidity difficulties and the resources of the FSLIC (Federal Savings & Loan Insurance Corp.) are not sufficient to deal with the failure of even a small number of large savings and loan associations.[14] The FSLIC and FDIC are presently asking Congress for broader authority to deal with failing institutions and an increased line of credit from the Treasury. However, this may not be sufficient, and new ways must be found to allow weak and failing thrifts to be merged or acquired by larger thrifts and banks even if this involves going across state lines.

As Kane (1981) has pointed out, even thrifts with negative bookable net worth sell for positive stock exchange values. They have, that is, some positive unbooked value. This value could be realized during the merger process. Furthermore, the weak institution's value might be even greater to a firm prevented from expanding across state or industry boundaries. That value could be realized by relaxing the present restrictions on mergers and acquisitions.

The past regulatory framework has created significant artificial heterogeneity between thrifts and banks. These demarcations are now being broken down by electronic technology and regulatory change. For example, the introduction of nationwide NOW accounts and expanded thrift powers are destroying the sharp lines between institutions that have been maintained by regulators in the past. Procedures must be developed to allow the resulting potential cost-savings to be realized through cross-institutional acquisitions and mergers, interstate full-service operations, and federal overrides of state imposed restrictions against branching.

It would seem however, that once the backlog of problem mortgages had been eliminated, with the permissive contract for new variable rate mortgages already in place, the earning aspect of the problem of the viability of thrift institutions would be solved. Expanded merger opportunities should permit the removal of the weakest institutions. Then, all excuses for further delaying the removal of Regulation Q would be gone and it could be eliminated immediately. In turn, the elimination of Regulation Q would remove the last vestiges of the thrift and small bank disintermediation problem and free monetary policy from the constraining fear of widespread thrift insolvencies. Then, revision of the deposit insurance system should prevent a recurrence of the viability problem.

## THE BREAKDOWN OF FINANCIAL INDUSTRY BOUNDARIES

As the first anniversary of the Act passed, it became apparent that the structure of the financial system is changing significantly. Such adaptations should serve to promote recognition of the inefficiencies that arise from preserving old demarcations at a time when technological change and financial innovations demand their reconsideration. Such recognition may help to promote the legislation which will be necessary to allow strong institutions to merge with failing ones in order to prevent overtaxing the resources of the FDIC and FSLIC. Strong banks in one state may see value in a failing institution as a way to gain entry into another state's markets. As this section shows, recent developments in the financial system foretell substantial change.

Despite the Act, thrifts remain more constrained in the use of their funds than do banks. It remains to be seen to what extent the thrifts will use their new powers under the Act. In the meantime banks are pressing for an extension of their authority. In particular, they would like to be able to issue state and local government revenue bonds. Such a request immediately raises the issue of competition between the banks and the securities industry. This issue is also being raised by the brokerage houses incursion into the banking field by the provision of money market mutual funds which have banking attributes, and by the merger of American Express (which while not a bank, has specialized in the provision of exchange media) with the brokerage house, Shearson, Loeb and Rhodes Incorporated. The Cash Management Account offered by Merrill Lynch has raised considerable concern in the banking industry (Mayer, 1980).

In fact, the old industry demarcations are breaking down. Shades of interstate banking are occurring through bank holding company ventures across state lines. The First American Bank in the Washington-Maryland-Virginia metropolitan area and the First Interstate Bank in eleven western states offer some banking functions (which allow depositors to withdraw but not deposit money) across state borders. The Prudential Insurance Company of America is seeking to merge with the Bache Group. The Equitable Life Assurance Society has received permission from the New York State Insurance Department to accept corporate demand deposits and to offer cash management services to customers, nationwide. Because insurance companies do not have interstate restrictions, the company considers that it would have an advantage over banks in providing faster collection and disbursement services.

Muriel Siebert, the New York State superintendent of banks has already taken "one small step" toward the breakdown of interindustry restrictions, by giving the State's savings institutions the right to issue money market mutual funds. Similarly, Visa is proposing to offer money market mutual funds shares to its customers. While Visa is not a bank, the company is wholly owned by its member banks. And it does propose to channel the mutual funds it might obtain back to its members in the form of certificates of deposit. Such a development would be particularly attractive to those small banks which have experienced difficulty in borrow funds from the money markets on account of their small size and lack of market acceptability.

One bank, on its own initiative, has devised a way to compete directly with the money market mutual funds. The Bank of California offered a deposit account which carried an interest rate which varied daily, and which had immediate liquidity. The account avoided Regulation Q restrictions because it was held in London and was not insured by the FDIC. It was, in effect, a consumer Eurodollar. However, the Federal Reserve first asked the bank to cease issuing the deposits, while the Board assessed their implications. It then amended its regulations to make the deposits illegal.

Subsequently, the Federal Home Loan Bank Board gave federally chartered S&Ls the opportunity of offering small deposits which compete with money market mutual funds, in response to California Federal Savings and Loan Association's (the largest federal savings and loan association) experimental offering of a small denomination, high fixed rate, uninsured account. During the first half of 1981, such retail repos have become commonly advertized in the California press. During the Spring of 1981, it began to appear that the Home Loan Bank Board was moving S&Ls toward deregulation faster than the commercial bank regulators were allowing the banks to proceed.

Another development that has become evident is a competition between federal and state regulators and legislators. In the past, when federal regulations have been more restrictive than state, institutions have relinquished their federal status and taken state charters. This happened, in particular, with regard to reserve requirements and the Federal reserve membership issue. Since the Deregulation Act, however, there are instances in which federal status gives competitive advantages over state incorporation. As a result, for example, of the Wellenkamp decision which gives buyers of property the right to take over any existing mortgage at the old contract rate and other regulatory stringencies, several of the largest of the California savings and loan associations have, since the Act, requested federal charters.

Consequently, if the states that are losing control of their institutions perceive any advantage in retaining jurisdiction over them, they will need to make their regulations competitively comparable to, or more advantageous than those of the federal agencies. In fact, some states, such as Delaware and South Dakota, are developing industries which specialize in the provision of financial services in response to their attractive taxation and regulatory climates.

## MONETARY POLICY

Problems remain in the conduct of monetary policy. The growth of the money stock as traditionally measured, was both high and volatile during 1980 (Board of Governors, 1981). Further, since the start of 1981, the nationwide extension of NOW accounts appears to have further complicated the conduct of policy. Whereas during the limited experience with the operation of M1-A and M1-B in 1980, these two monetary aggregates have moved similarly, since the extension of NOW accounts their patterns have diverged. M1-B has grown relatively to M1-A.[15]

Some of the increase in M1-B has come from the transfer of personal demand deposits from banks to thrifts, and some has come from the substitution at thrifts of NOW accounts for passbook and other savings accounts. This phenomenon has occurred because the present configuration of Regulation Q rates gives little or no financial reward for the holding of balances in passbook and other short-term accounts as compared to keeping them as NOW accounts. For example, at commercial banks all deposits of less than 90 day maturity, including NOW and ATS (automatic transfer service) accounts carry the same 5¼ percent Regulation Q restriction. At savings and loan associations and mutual savings banks passbook savings earn 5½ percent—only slightly above the 5¼ rate earned on NOWs. Consequently, the present Q configuration encourages exchanging passbook accounts for NOW accounts, which offer more services to the consumer and, at the same time, incur greater resource cost to the host institution.

This all raises a question of the interpretation of the ease or restrictiveness of monetary policy. If M1-B grows rapidly, while M1-A and passbook savings accounts decline compensatingly, does this mean that monetary policy is expansionary?

Given the confusing evidence presented by the diverging growths of M1-A and M1-B, it is tempting to try to assess the stimulatory impact of monetary policy by looking at the behavior of the monetary base. Yet, at the same time that the interpretation of the changes in the money stock figures has been complicated by the NOW implementation, so has the interpretation of the growth of the monetary base.

The problem of measuring the money supply accurately is wider than that of distinguishing between M1-A and M1-B. Regulations imposed on financial institutions impede their growth and raise their costs. Consequently, they promote regulation avoidance. This occurs within the regulated institutions which substitute less regulated assets and liabilities for more regulated ones. It also occurs by promoting unregulated intermediaries at the expense of regulated ones. For example, money market funds have grown at the expense of deposit institutions and the commercial paper market has grown more rapidly than the bank loan market.[16]

The Federal Reserve has recently issued a two-volume report on its new operating strategy (Board of Governors, 1981). The report suggests that the Federal Reserve has compounded its operating problems in several ways. First, the concern with short-term market developments, observed by many Federal Reserve critics in the past, was still apparent during the year following the Act's passage (Levin and Meek, 1981). This myopic view makes it difficult to concentrate on the longer run objective of a stable, noninflationary growth of the money supply. Second, despite the claimed shift toward monetary control, the Federal Reserve was still sensitive to interest rate movements during 1980-81 (Levin and Meek, 1981). This concern arises from the difficulty of abandoning old procedures and the adverse impact of high interest rates on intermediation. Third, the use of unborrowed reserves as the instrument has been criticized for imparting a procyclical stimulus to the economy (Meltzer, 1981). Fourth, the Federal Reserve's reluctance to use the discount rate as a penalty rate within an environment of lagged reserve accounting is inconsistent with effective monetary control. Economists almost universally recommend that the Federal Reserve shift to a system of contemporaneous accounting.

It has been suggested that the Act has little to do with effective monetary control (Cargill and Garcia 1981, chapter 7). While it does make certain technical improvements in the Federal Reserve's ability to control the money supply, other institutional changes are required. The first and early second year's performance of monetary policy appears consistent with this view.

### Lagged Reserve Accounting

Lagged reserve accounting causes the Federal Reserve to lose effective control of the supply of the reserve base and, therefore, of the quantity of money. In the past, member banks have argued that they need the time-delay in order to overcome the technical problems of knowing precisely the quantities of their deposits (in various categories) and of their reserves (both required and excess). In the past, before the widespread use of computers, each separate branch of a bank would not know the quantity of its deposits until after the close of bank business. Only then could the bank aggregate the quantity of its branches' deposits and calculate the needed reserves. And at the close of bank business it was too late to raise extra needed reserves or to dispose of excess ones. In this situation a time delay was perhaps necessary to enable the banks to do their housekeeping.[17]

With the advent of the computer and the storage of information on line, however, it should be easier for the banks, including multi-branch banks, to keep track of their deposits, reserve needs and availabilities. In this situation, it should be possible to require banks to hold reserves contemporaneously. At the same time it would be recognized that knowledge of the bank's precise position might not be available at the close of each day nor at the end of the reserve week.

Consequently, an allowance for accommodating mistakes should be made. It would be possible, for example, to allow banks to make up any deficit with, say, a two week delay. Any proclivity toward deliberately running a deficit or toward being careless in not avoiding one, could be dealt with by enforcing a penalty for deficits. Of course, if the Federal Reserve were to permit the borrowing of reserves as readily as it does now, the current problem of undue accommodation would remain. Only when the Reserve Banks permitted borrowing only in emergencies or at high, penalty rates, would the System retain effective control over the money supply process.

## POSTSCRIPT - CONCLUDING COMMENTS

Some of these proposals may be worthy of further consideration. They are intended to increase the efficiency of the financial system and improve the conduct of monetary policy. At the same time they should enlarge the set of financial services available to consumers who would be better able to choose that configuration of explicit or implicit return, liquidity, and risk which matches their preferences. Disintermediation would be reduced, if not entirely eliminated, for as consumers' preferences and business conditions changed, users of financial services would be able to shift their portfolios without necessarily changing the financial institution of their choice. A successful end to disintermediation should reduce the problem of unavailability of a supply of finance to housing. As long as inflation continues, the cost of housing credit will continue high. However, an end to the old attempts to artificially reduce the cost of housing finance should increase the efficiency of the economy by allowing capital to flow to wherever the demand is greatest. This is a necessary step toward reversing the disappointing economic growth in the economy during the 1970s.

Finally the solution of the thrift viability problem will enable the Federal Reserve to conduct a monetary policy which involves high and variable interest rates, without considering the likelihood of creating widespread bankruptcies among financial institutions. In short, solving the problem of thrift and small bank viability appears to be the prerequisite for the achievement of the Act's ultimate objectives.

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***Footnotes:***

[1] Disintermediation: The transfer of funds from depository institutions to open market assets, such as commercial paper, treasury bills, money market mutual fund shares, stocks and bonds, etc., which are not subject to Regulation Q.

[2] The DIDC or Depository Institutions Deregulation Committee was established by the 1980 Act to phase-out Regulation Q interest ceilings.

[3] Regulation Q, by establishing interest rate ceilings on deposit accounts, constrains interest rate competition among banks, savings and loan associations, credit unions, and mutual savings banks.

[4] The 1981 tax law created a special tax saver deposit that can be offered by depository institutions. Interest income will be tax exempt up to $1,000 ($2,000 for a joint return). These special tax saver deposits will be offered on a temporary basis and are designed to aid those institutions, especially savings and loan associations, that have experienced significant deposit withdrawals. A large part of the funds withdrawn from depository institutions have been placed in money market mutual funds, which are not subject to interest rate ceilings.

[5] Nevertheless, thrifts are increasingly being forced to pay market-related interest rates. The proportion of S&L funds subject to interest rate ceilings fell from 94.0 percent in December, 1966 to 42.2 percent in December, 1980. Small commercial banks showed a similar experience, the percentage of their liabilities subject to interest ceilings fell from 94.1 percent at the end of 1966 to 42.4 percent at the close of 1980. Large commercial banks were less dependent on regulated deposits throughout the period. The reduction in their exposure to disintermediation fall was from 77.0 percent to 28.9 percent over the period.

[6] The expression, term structure risk, is used to describe the experience where short-term interest rates rise faster than long-term rates to present an earnings problem for thrifts. It is discussed at greater length in Cargill and Garcia (1981, Chapter 2).

[7] It would seem that the Federal Home Loan Bank Board's flexible arrangement for variable rate mortgages would be favorable to the savings and loan industry. There is there no restriction on the amount by which rates can rise or fall, following any chosen index of market rates. The regulations established by the Comptroller's Office may be less attractive to national banks, however. They place a 2 percentage point cap on the annual percentge increase in mortgage rates.

[8] The quantity of new mortgage credit extended by S&Ls fell from $109.5 billion in the first quarter of 1979 to $61.7 billion in the first quarter of 1980. From the second quarter of 1979 to the second quarter of 1980 the reduction was from $100.0 billion to $38.2 billion.

[9] Some of the California state-chartered S&Ls which are currently applying for federal charters are: Home Savings and Loan Association (the nation's largest S&L), Great Western Savings and Loan Association, Mercury Savings and Loan Association, and World Savings and Loan Association.

[10] The Wellenkamp decision gave house purchasers in California the right to take over any existing mortgage from a state chartered deposit institution at the original interest rate. Under the recent decision, Panko and Sinclair vs. Pan American Federal Savings and Loan Association, in the California Court of Appeal, this right has been extended to purchasers of property carrying mortgages granted by federally chartered institutions. However, the California Court of Appeals recently declared that the Wellenkamp decision is not applicable to federally chartered savings and loan associations. Cases in other states, such as Nevada, are currently arguing that the Wellenkamp decision should be adopted outside California.

[11] Data presented in DIDC (1981) show that, in December 1980, 1.3 percent of the value of S&L mortgage portfolios were made at contract rates below 6 percent, 14.1 percent at rates below 8 percent, 66.7 percent at rates below 10 percent and 90.3 percent at rates below 12 percent. The low-yield mortgage problem was most severe in industrial areas of the northeast such as those served by the Boston, New York and Pittsburg Federal Home Loan Banks.

[12] For example, a mortgage carrying a fixed 9 percent rate, would offer a return equivalent to 13.5 percent to some one in the 50 percent marginal tax bracket. With the market mortgage rate at 15 percent, sale of such a mortgage would still involve some capital loss, but a substantially reduced one. If such tax inducement were considered insufficient, a double tax deduction might be considered. That is, twice (or some other multiple above one) the interest income might be deducted from income subject to taxation.

[13] Paying interest on required reserves would, for example, reduce the incentive to innovate outside of the Federal Reserve's mandate. The issues are discussed further in Cargill and Garcia (1981, Chapter 8).

[14] 263 S&Ls, the most ever, were reported to be experiencing abnormal problems in June 1981 (*Wall Street Journal*, 1981).

[15] M1-A is defined as coin, currency and checking accounts at commercial banks. M1-B is defined as coin, currency, and checking accounts at banks, savings and loan associations, mutual savings banks, and credit unions. M1-B is the most useful measure of the money supply.

[16] Between December 1977 and December 1980, Federal Reserve data show that the commercial paper market almost doubled in volume, rising from $65.0 billion to $125.00 billion over the period. The value of total commercial banks loan grew more slowly, rising from $652.1 billion to $910.1 billion. Commercial and industrial bank loans on the books of the commercial banks also grew more slowly than the commercial paper market, rising from $211.2 billion to $323.1 billion over the period.

[17] It should be pointed out, however, that banks operated under an environment of contemporaneous reserve accounting until 1968.

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# Nevada Economic Indicators

## Statewide Statistical Data

| | April 1981 | May 1981 | June 1981 | 2nd Quarter 1981 | PERCENT CHANGE 1st Quarter-1981 2nd Quarter-1981 | PERCENT CHANGE 2nd Quarter-1980 2nd Quarter-1981 |
|---|---|---|---|---|---|---|
| Total Labor Force (000's) | 389.7 | 394.3 | 398.6 | 394.2 | + 2.3 | + 5.0 |
| Total Employment (000's) | 364.4 | 369.6 | 371.7 | 368.6 | + 3.4 | + 4.6 |
| Unemployment (000's) | 25.2 | 24.6 | 26.6 | 25.5 | − 10.4 | + 12.2 |
| Unemployment Rate | 6.5 | 6.2 | 6.7 | 6.5 | − 12.2 | + 6.6 |
| Unemployment Rate (Seasonally Adjusted) | 6.7 | 6.5 | 6.6 | 6.6 | − 4.3 | + 7.6 |
| Agricultural Empl. (000's) | 5.0 | 5.3 | 6.2 | 5.5 | + 51.4 | + .6 |
| Establishment Based Industrial Employment | | | | | | |
| Total All Industries (000's) | 409.4 | 414.6 | 417.5 | 413.8 | + 3.0 | + 3.8 |
| Mining | 8.0 | 8.1 | 8.4 | 8.2 | + 6.5 | + 40.8 |
| Contract Construction | 25.3 | 25.8 | 26.2 | 25.8 | + 4.3 | + .9 |
| Manufacturing | 20.0 | 20.1 | 20.3 | 20.1 | + 1.7 | + 4.1 |
| Transportation & Utilities | | | | | | |
| Transportation | 13.4 | 13.4 | 13.4 | 13.4 | + 1.5 | + 4.7 |
| Railroads | 1.6 | 1.6 | 1.6 | 1.6 | −0− | −0− |
| Air | 3.1 | 3.1 | 3.1 | 3.1 | −0− | − 1.1 |
| Public Utilities | 11.9 | 11.9 | 12.1 | 12.0 | + 1.4 | + 7.8 |
| Total Trade | 84.0 | 85.0 | 86.4 | 85.1 | + 3.8 | + 8.2 |
| Wholesale Trade | 13.1 | 13.1 | 13.4 | 13.2 | + 1.8 | + 1.8 |
| Retail Trade | 70.9 | 71.9 | 73.0 | 71.9 | + 4.2 | + 9.5 |
| Finance, Ins., Real Estate | 18.4 | 18.5 | 18.6 | 18.5 | − 2.3 | + 6.3 |
| Service Industries | 170.0 | 172.7 | 174.7 | 172.5 | + 3.7 | + 1.3 |
| Hotels, Amusement and Recreation Combined | 112.9 | 115.0 | 116.6 | 114.8 | + 4.9 | − 1.5 |
| Medical and Health | 13.8 | 13.8 | 13.9 | 13.8 | + .2 | + 8.6 |
| Total Government | 58.4 | 59.1 | 57.4 | 58.3 | + .2 | + .6 |
| Federal | 10.0 | 10.3 | 10.4 | 10.2 | + 1.3 | − 6.4 |
| State and Local | 48.4 | 48.8 | 47.0 | 48.1 | − .1 | + 2.2 |
| Education | 20.6 | 20.9 | [illegible] | 20.1 | − 1.0 | + .3 |
| Average Weekly Earnings in Selected Industries | | | | | | |
| Mining | 425.82 | 466.66 | 437.53 | 443.34 | + 7.2 | + 20.9 |
| Construction | 568.63 | 570.84 | 568.93 | 569.47 | + 2.6 | + 20.6 |
| Manufacturing | 329.43 | 319.84 | 321.09 | 323.45 | + 5.5 | + 12.9 |
| Public Utilities | 395.41 | 387.93 | 390.67 | 391.34 | + 7.4 | + 15.9 |
| Trade | 239.43 | 238.05 | 233.91 | 237.13 | + 3.3 | + 4.4 |
| Average Weekly Hours in Selected Industries | | | | | | |
| Mining | 40.4 | 43.9 | 40.7 | 41.7 | + 3.0 | + 4.5 |
| Construction | 36.9 | 36.9 | 36.8 | 36.9 | + 2.7 | + 4.0 |
| Manufacturing | 39.5 | 39.1 | 38.5 | 39.0 | + 1.5 | + 3.7 |
| Public Utilities | 39.9 | 40.2 | 40.4 | 40.2 | + 1.1 | + .5 |
| Trade | 34.6 | 34.4 | 33.9 | 34.3 | + 2.5 | + 2.0 |
| Average Hourly Earnings in Selected Industries | | | | | | |
| Mining | 10.54 | 10.63 | 10.75 | 10.64 | + 4.1 | + 15.7 |
| Construction | 15.41 | 15.47 | 15.46 | 15.45 | − .1 | + 9.7 |
| Manufacturing | 8.34 | 8.18 | 8.34 | 8.29 | + 4.0 | + 8.9 |
| Public Utilities | 9.91 | 9.65 | 9.67 | 9.74 | + 6.2 | + 15.4 |
| Trade | 6.92 | 6.92 | 6.90 | 6.91 | + .8 | + 2.3 |
| Construction Activity | | | | | | |
| Residential ($000's) | 60,400 | 67,700 | 39,800 | 167,900 | − 4.7 | + 41.8 |
| Nonresidential ($000's) | 32,300 | 22,300 | 35,500 | 90,100 | − 22.7 | − 2.4 |
| Nonbuilding ($000's) | 4,500 | 4,900 | 14,500 | 23,900 | + 21.3 | − 29.7 |
| Total ($000's) | 97,200 | 94,900 | 89,800 | 281,900 | − 9.8 | + 15.2 |
| # of New Dwelling Units | 1,193 | 1,227 | 752 | 3,172 | + 52.6 | + 57.2 |
| Banking Activities ($000,000's) | | | | | | |
| Loans | 1,960 | 1,956 | 1,977 | 1,964 | + 3.0 | + 3.2 |
| Investments | 650 | 661 | 660 | 657 | − 1.6 | + 9.8 |
| Total Deposits | 2,687 | 2,689 | 2,774 | 2,716 | + 4.8 | + 6.4 |
| Demand Deposits | 1,013 | 995 | 1,055 | 1,021 | + 5.4 | − .9 |
| Time & Savings Deposits | 1,671 | 1,687 | 1,709 | 1,689 | + 4.2 | + 11.2 |

# Statewide Statistical Data (Continued)

| | | | | | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | April 1981 | May 1981 | June 1981 | 2nd Quarter 1981 | 1st Quarter-1981 2nd Quarter-1981 | 2nd Quarter-1980 2nd Quarter-1981 |
| Tax Collections ($) | | | | | | |
| Liquor | 1,045,166 | 1,022,227 | 1,192,496 | 3,259,889 | + 31.2 | + 8.1 |
| Cigarette | 1,140,030 | 1,237,862 | 1,035,865 | 3,413,757 | NA | + 11.9 |
| Fuel | 1,159,385 | 1,829,115 | 1,912,906 | 4,901,408 | – 5.1 | – 6.9 |
| Taxable Sales ($000's) | – | – | – | 1,743,489 | + 11.6 | + 20.5 |
| Gaming Revenues ($000's) | – | – | – | 646,189 | + 9.3 | + 11.3 |
| Telephones in Service | 804,604 | 808,979 | 813,385 | 808,989 | + .8 | + 2.8 |
| Highway Traffic Flow | | | | | | |
| 17 Selected Stations (Avg. Daily) | 101,995 | 110,010 | 123,163 | 111,722 | + 28.9 | + 7.7 |
| Prices Received by NV Farmers | | | | | | |
| Sheep (CWT) | 17.00 | 17.00 | 17.00 | 17.00 | + 6.2 | –0– |
| Lambs (CWT) | 55.00 | 57.00 | 57.00 | 56.33 | + 3.0 | – .6 |
| Beef Cattle (CWT) | 58.10 | 55.70 | 55.00 | 56.27 | – 4.3 | – 3.1 |
| Veal Calves (CWT) | 70.00 | 66.00 | 60.00 | 65.33 | – 6.7 | – 4.9 |
| Alfalfa Hay (baled ton) | 90.00 | 85.00 | 84.00 | 86.33 | – 10.4 | – 14.0 |
| Other Hay (baled ton) | 71.00 | 68.00 | 67.00 | 68.67 | – 11.2 | – 12.3 |
| Wool (lb) | .75 | .75 | .75 | .75 | – 3.8 | – 5.5 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Las Vegas Standard Metropolitan Statistical Area

| | | | | | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | April 1981 | May 1981 | June 1981 | 2nd Quarter 1981 | 1st Quarter-1981 2nd Quarter-1981 | 2nd Quarter-1980 2nd Quarter-1981 |
| Total Labor Force (000's) | 215.1 | 216.9 | 218.4 | 216.8 | + 1.5 | + 4.7 |
| Total Employment (000's) | 198.9 | 201.1 | 201.0 | 200.3 | + 2.3 | + 4.0 |
| Unemployment (000's) | 16.1 | 15.7 | 17.1 | 16.3 | − 8.1 | + 12.7 |
| Unemployment Rate | 7.5 | 7.3 | 7.8 | 7.5 | − 9.2 | + 8.1 |
| Unemployment Rate (Seasonally Adjusted) | 7.8 | 7.5 | 7.4 | 7.6 | − 8.8 | + 8.6 |
| Agricultural Employment (000's) | .8 | .8 | .9 | .8 | + 56.3 | −0− |
| Establishment Based Industrial Employment | | | | | | |
| Total All Industries (000's) | 225.3 | 227.3 | 227.8 | 226.8 | + 2.1 | + 2.9 |
| Mining | .6 | .6 | .7 | .6 | + 5.6 | + 35.7 |
| Contract Construction | 12.9 | 13.1 | 13.2 | 13.1 | + 2.6 | − 3.7 |
| Manufacturing | 7.2 | 7.2 | 7.3 | 7.2 | + 1.9 | + 4.3 |
| Transportation & Utilities | | | | | | |
| Transportation | 7.9 | 7.9 | 8.0 | 7.9 | + .8 | + 4.4 |
| Railroads | .6 | .6 | .6 | .6 | −0− | −0− |
| Air | 2.6 | 2.6 | 2.6 | 2.6 | −0− | −0− |
| Public Utilities | 5.8 | 5.8 | 5.9 | 5.8 | + .6 | + 7.4 |
| Total Trade | 48.7 | 49.2 | 49.6 | 49.2 | + 3.4 | + 9.8 |
| Wholesale Trade | 6.0 | 6.1 | 6.2 | 6.1 | + 1.1 | −0− |
| Retail Trade | 42.7 | 43.1 | 43.4 | 43.1 | + 3.8 | + 11.4 |
| Finance, Ins., Real Estate | 10.7 | 10.7 | 10.7 | 10.7 | + 2.6 | + 8.8 |
| Service Industries | 104.4 | 105.4 | 105.7 | 105.2 | + 1.8 | − .3 |
| Hotels, Gaming & Recreation | 68.8 | 69.1 | 69.2 | 69.0 | + 2.1 | − 3.1 |
| Total Government | 27.1 | 27.4 | 26.7 | 27.1 | + .9 | + 2.7 |
| Federal | 5.0 | 5.2 | 5.2 | 5.1 | + 1.3 | −0− |
| State and Local | 22.1 | 22.2 | 21.5 | 21.9 | + .8 | + 3.3 |
| Education | 10.3 | 10.4 | 9.6 | 10.1 | −0− | + 1.3 |
| Construction Activity | | | | | | |
| Las Vegas | | | | | | |
| Residential ($000's) | 7,327 | 3,216 | 4,485 | 15,028 | − 38.2 | + .3 |
| Nonresidential ($000's) | 5,793 | 11,054 | 2,066 | 18,913 | − 61.1 | − 16.4 |
| Total Value ($000's) | 13,120 | 14,270 | 6,551 | 33,941 | − 53.4 | − 9.7 |
| # of New Family Units | 182 | 73 | 102 | 357 | − 51.6 | − 1.1 |
| North Las Vegas | | | | | | |
| Residential ($000's) | 1,686 | 438 | 1,336 | 3,460 | + 97.6 | + 188.3 |
| Nonresidential ($000's) | 818 | 757 | 867 | 2,442 | + 14.0 | − 39.2 |
| Total Value ($000's) | 2,504 | 1,195 | 2,203 | 5,902 | + 51.6 | + 10.7 |
| # of Permits | 135 | 63 | 103 | 301 | + 52.0 | + 22.9 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | 384,344 | 452,536 | 604,106 | 1,440,986 | + 23.1 | + 34.1 |
| # of Customers | 193,201 | 194,124 | 194,810 | 194,045 | + 1.7 | + 6.4 |
| Taxable Sales ($000's) | – | – | – | 926,619 | + 9.2 | + 14.5 |
| Gaming Revenues ($000's) | – | – | – | 423,507 | + 3.6 | + 8½7 |
| Telephones in Service | 503,872 | 506,391 | 508,923 | 506,395 | + .6 | + 3.0 |
| Air Transportation-McCarran | | | | | | |
| Passengers (Arr. & Depart.) | 797,043 | 808,443 | 755,897 | 2,361,383 | − .7 | − 7.2 |
| Cargo Enplaned (lbs.) | 1,220,504 | 1,093,591 | 1,653,836 | 3,967,931 | + 15.2 | + 27.7 |
| Cargo Deplaned (lbs.) | 1,912,266 | 1,684,174 | 1,341,111 | 4,937,551 | − 13.0 | − 7.7 |
| Highway Traffic Flow | | | | | | |
| 4 Selected Stations (Avg. Daily) | 28,662 | 30,291 | 32,412 | 30,455 | + 22.4 | + 9.9 |
| East & Westbound – Hoover Dam (Total) | NA | NA | NA | NA | NA | NA |
| East & Westbound – Davis Dam (Total) | NA | NA | NA | NA | NA | NA |
| Room Tax ($) | | | | | | |
| Clark County | 1,869,640 | 1,357,491 | 1,179,145 | 4,406,276 | + 34.2 | + 15.9 |
| Las Vegas City | 254,394 | 245,683 | 213,417 | 713,494 | + .7 | + 3.0 |
| SMSA Total | 2,131,138 | 1,610,793 | 1,400,700 | 5,142,631 | + 28.3 | + 13.9 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Reno Standard Metropolitan Statistical Area

| | | | | | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | April 1981 | May 1981 | June 1981 | 2nd Quarter 1981 | 1st Quarter-1981 2nd Quarter-1981 | 2nd Quarter-1980 2nd Quarter-1981 |
| Total Labor Force (000's) | 109.1 | 110.5 | 111.1 | 110.2 | + 1.9 | + 3.4 |
| Total Employment (000's) | 103.8 | 105.4 | 105.9 | 105.0 | − 71.5 | + 3.2 |
| Unemployment (000's) | 5.2 | 5.1 | 5.2 | 5.2 | − 17.6 | + 6.9 |
| Unemployment Rate | 4.8 | 4.6 | 4.7 | 4.7 | − 18.5 | + 3.7 |
| Unemployment Rate (Seasonally Adjusted) | 4.9 | 5.1 | 5.0 | 5.0 | + 4.9 | + 3.4 |
| Agricultural Employment (000's) | .6 | .6 | .7 | .6 | + 46.2 | −0− |
| Establishment Based | | | | | | |
| Industrial Employment | | | | | | |
| Total All Industries (000's) | 115.4 | 117.0 | 117.8 | 116.7 | + 2.8 | + 2.2 |
| Mining | 1.1 | 1.2 | 1.2 | 1.2 | + 6.1 | + 25.0 |
| Contract Construction | 7.3 | 7.5 | 7.5 | 7.4 | + 4.2 | + 2.3 |
| Manufacturing | 8.3 | 8.5 | 8.5 | 8.4 | + .8 | + 3.7 |
| Transportation & Utilities | | | | | | |
| Transportation | 3.9 | 3.9 | 3.9 | 3.9 | + 1.7 | + 2.6 |
| Railroads | .5 | .5 | .5 | .5 | −0− | −0− |
| Public Utilities | 4.6 | 4.6 | 4.6 | 4.6 | −0− | + 6.2 |
| Total Trade | 25.5 | 25.8 | 26.3 | 25.9 | + 3.5 | + 7.3 |
| Wholesale Trade | 5.9 | 5.9 | 6.0 | 5.9 | + 2.3 | + 2.3 |
| Retail Trade | 19.6 | 19.9 | 20.3 | 19.9 | + 3.8 | + 8.9 |
| Finance, Ins., Real Estate | 6.2 | 6.2 | 6.3 | 6.2 | + .5 | + 3.3 |
| Service Industries | 41.9 | 42.4 | 43.2 | 42.5 | + 4.9 | − 1.9 |
| Hotels, Gaming & Recreation | 26.7 | 27.2 | 27.9 | 27.3 | + 7.2 | − 5.3 |
| Total Government | 16.6 | 16.9 | 16.3 | 16.6 | − .8 | + 1.6 |
| Federal | 2.9 | 3.0 | 3.0 | 3.0 | − 1.1 | + 6.0 |
| State and Local | 13.7 | 13.9 | 13.3 | 13.6 | − .7 | + .7 |
| Education | 6.5 | 6.6 | 5.9 | 6.3 | − 1.6 | − 1.6 |
| Construction Activity | | | | | | |
| Reno | | | | | | |
| Residential ($000's) | 927 | 11,278 | 4,284 | 16,489 | + 406.1 | + 153.4 |
| Nonresidential ($000's) | 6,688 | 4,142 | 2,060 | 12,890 | − 67.7 | − 42.3 |
| Total Value ($000's) | 7,615 | 15,420 | 6,344 | 29,379 | − 32.0 | + 1.9 |
| # of New Family Units | 3 | 555 | 72 | 630 | + 1,365.1 | + 296.2 |
| Sparks | | | | | | |
| Residential ($000's) | 93 | 27 | 78 | 198 | − 74.4 | − 85.1 |
| Nonresidential ($000's) | 4,848 | 786 | 2,459 | 8,093 | + 99.4 | − 6.8 |
| Total Value ($000's) | 4,941 | 813 | 2,537 | 8,291 | + 71.6 | − 17.2 |
| # of New Family Units | — | — | — | 0 | −0− | −0− |
| Washoe County (Unincorporated) | | | | | | |
| Residential ($000's) | 2,106 | 3,462 | 5,249 | 10,817 | + 112.5 | − 24.2 |
| Nonresidential ($000's) | 1,205 | 1,020 | 2,526 | 4,751 | + 318.2 | − 7.4 |
| Total Value ($000's) | 3,311 | 4,482 | 7,775 | 15,568 | + 150.0 | − 19.7 |
| # of New Family Units | 23 | 40 | 46 | 109 | + 51.4 | − 22.7 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 50,394 | 44,997 | 44,088 | 139,479 | − 16.3 | − 2.4 |
| Commercial | 83,326 | 85,958 | 93,908 | 263,192 | + 4.2 | + 9.0 |
| # of Customers | | | | | | |
| Residential | 78,453 | 78,599 | 78,781 | 78,611 | + .4 | + 3.2 |
| Commercial | 11,858 | 11,852 | 11,847 | 11,852 | + .1 | + 3.5 |
| Taxable Sales ($000's) | — | — | — | 439,889 | + 12.4 | + 6.4 |
| Gaming Revenues ($000's) | — | — | — | 131,876 | + 22.0 | + 14.0 |
| Telephones in Service | 192,711 | 193,590 | 194,680 | 193,660 | + .9 | + 5.5 |
| Air Transportation-Reno | | | | | | |
| Passengers (Arr. & Depart.) | 161,703 | 178,575 | 182,580 | 522,858 | + 2.9 | − 6.5 |
| Cargo Enplaned (lbs.) | 547,135 | 482,495 | 472,313 | 1,501,943 | − 8.2 | − 3.2 |
| Cargo Deplaned (lbs.) | 588,276 | 575,085 | 535,471 | 1,698,832 | − 6.0 | − 7.7 |
| Highway Traffic Flow | | | | | | |
| 7 Selected Stations (Avg. Daily) | | | | | | |
| Room Tax ($) | | | | | | |
| Washoe County | 50,054 | 37,430 | 56,071 | 143,555 | + 18.1 | −0− |
| Reno | 433,803 | 470,800 | 560,659 | 1,465,262 | + 53.4 | + 3.2 |
| Sparks | 27,735 | 32,421 | 39,677 | 99,833 | + 45.2 | + 1.8 |
| SMSA Total | 511,592 | 540,651 | 656,407 | 1,708,650 | + 49.2 | + 2.8 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Nevada Statistical Data by County

| | April 1981 | May 1981 | June 1981 | 2nd Quarter 1981 | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | | | | | 1st Quarter-1981 2nd Quarter-1981 | 2nd Quarter-1980 2nd Quarter-1981 |
| CARSON CITY | | | | | | |
| Total Labor Force | 16,930 | 17,510 | 18,200 | 17,546 | + 4.0 | + 10.0 |
| Total Employment | 15,710 | 16,290 | 16,830 | 16,276 | + 5.5 | + 9.6 |
| Unemployment | 1,220 | 1,220 | 1,370 | 1,270 | – 12.0 | + 15.1 |
| Unemployment Rate | 7.2 | 7.0 | 7.5 | 7.2 | – 15.9 | + 4.3 |
| Construction Activity | | | | | | |
| Residential Value ($000's) | 1,956 | 578 | 2,002 | 4,536 | + 230.4 | + 212.0 |
| Nonresidential Value ($000's) | 816 | 249 | 8 | 1,073 | – 72.5 | – 29.5 |
| Total Value ($000's) | 2,772 | 827 | 2,010 | 5,609 | + 6.3 | + 88.3 |
| # of New Family Units | 31 | 4 | 38 | 73 | + 170.4 | + 180.8 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 6,808 | 5,984 | 5,898 | 18,690 | – 18.0 | – 1.4 |
| Commercial | 10,374 | 10,925 | 11,706 | 33,005 | + 7.2 | + 7.2 |
| # of Customers | | | | | | |
| Residential | 11,930 | 11,996 | 11,991 | 11,972 | + .3 | + 4.1 |
| Commercial | 1,845 | 1,858 | 1,855 | 1,852 | + .6 | + 5.4 |
| Telephones in Service | 31,992 | 32,073 | 32,156 | 32,073 | + .3 | + 4.8 |
| Taxable Sales ($000's) | – | – | – | 51,603 | + 15.9 | – 18.6 |
| Gaming Revenues ($000's) | – | – | – | 8,505 | + 23.9 | + 2.3 |
| CHURCHILL | | | | | | |
| Total Labor Force | 5,220 | 5,320 | 5,450 | 5,330 | + 6.2 | + 5.5 |
| Total Employment | 4,850 | 4,960 | 5,120 | 4,976 | + 7.8 | + 5.7 |
| Unemployment | 370 | 360 | 330 | 353 | – 12.4 | + 3.9 |
| Unemployment Rate | 7.1 | 6.8 | 6.0 | 6.6 | – 17.8 | – .5 |
| Construction Activity | | | | | | |
| Residential Value ($000's) | 83 | 40 | 197 | 320 | – 70.9 | – 79.7 |
| Nonresidential Value ($000's) | 38 | 34 | 249 | 321 | + 379.1 | – 45.4 |
| Total Value ($000's) | 121 | 74 | 446 | 641 | – 45.0 | – 70.4 |
| # of New Family Units | 1 | 0 | 5 | 6 | – 72.7 | – 87.0 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 2,612 | 2,497 | 2,703 | 7,812 | – 9.4 | + 2.1 |
| Commercial | 6,400 | 5,937 | 7,159 | 19,496 | + .6 | + 6.2 |
| # of Customers | | | | | | |
| Residential | 4,778 | 4,871 | 4,903 | 4,850 | + 2.2 | + 6.3 |
| Commercial | 847 | 852 | 857 | 852 | + .9 | + 5.3 |
| Telephones in Service | 10,155 | 10,163 | 10,199 | 10,172 | + 1.0 | + 5.5 |
| Taxable Sales ($000's) | – | – | – | 15,460 | + 3.5 | – .4 |
| Gaming Revenues ($000's) | – | – | – | 1,038 | + 21.8 | + 5.0 |
| DOUGLAS | | | | | | |
| Total Labor Force | 8,360 | 8,560 | 8,850 | 8,590 | + 4.2 | + 15.5 |
| Total Employment | 7,760 | 8,010 | 8,300 | 8,023 | + 6.8 | + 15.4 |
| Unemployment | 600 | 550 | 550 | 566 | – 22.4 | + 17.2 |
| Unemployment Rate | 7.2 | 6.4 | 6.2 | 6.6 | – 25.6 | + 1.0 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 6,266 | 5,363 | 5,371 | 17,000 | – 20.0 | – 2.1 |
| Commercial | 11,210 | 11,572 | 13,813 | 36,595 | + 6.7 | + 8.7 |
| # of Customers | | | | | | |
| Residential | 9,020 | 9,064 | 9,090 | 9,058 | + 1.2 | + 6.6 |
| Commercial | 1,417 | 1,423 | 1,428 | 1,422 | + .4 | + 4.8 |
| Telephones in Service | 8,648 | 8,746 | 8,809 | 8,734 | + 4.2 | – 54.2 |
| Taxable Sales ($000's) | – | – | – | 39,612 | + 16.3 | + .4 |
| Gaming Revenues ($000's) | – | – | – | 62,648 | + 22.1 | + 20.9 |
| ELKO | | | | | | |
| Total Labor Force | 9,930 | 10,110 | 10,410 | 10,150 | + 6.4 | + 8.1 |
| Total Employment | 9,530 | 9,720 | 9,950 | 9,733 | + 7.2 | + 7.8 |
| Unemployment | 400 | 390 | 460 | 416 | – 9.4 | + 14.7 |
| Unemployment Rate | 4.0 | 3.9 | 4.4 | 4.1 | – 15.2 | + 6.0 |
| Construction Activity | | | | | | |
| Elko City | | | | | | |
| Residential ($000's) | 145 | 275 | 170 | 590 | – 70.6 | – 13.1 |
| Nonresidential ($000's) | 915 | 26 | 116 | 1,057 | + 1,078.6 | + 214.6 |
| Total Value ($000's) | 1,160 | 301 | 286 | 1,747 | – 16.8 | + 77.4 |
| # of New Dwelling Units | 3 | 6 | 2 | 11 | – 74.4 | – 15.4 |

# Nevada Statistical Data by County (Continued)

| | | | | | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | April 1981 | May 1981 | June 1981 | 2nd Quarter 1981 | 1st Quarter-1981 2nd Quarter-1981 | 2nd Quarter-1980 2nd Quarter-1981 |
| Energy Consumption Sales (000's KWH) | | | | | | |
| Residential | 3,201 | 2,833 | 2,800 | 8,834 | − 35.2 | − .6 |
| Commercial | 3,817 | 3,760 | 3,793 | 11,370 | + 4.1 | + 10.4 |
| # of Customers | | | | | | |
| Residential | 4,878 | 4,964 | 4,964 | 4,935 | + 2.3 | + 8.3 |
| Commercial | 991 | 960 | 960 | 970 | + 4.1 | + 8.6 |
| Telephones in Service | 13,385 | 13,459 | 13,614 | 13,486 | + 2.3 | + 10.3 |
| Taxable Sales ($000's) | — | — | — | 42,036 | + 34.7 | + 62.5 |
| Gaming Revenues ($000's) | — | — | — | 11,936 | + 17.2 | + 23.9 |
| ESMERALDA | | | | | | |
| Total Labor Force | 200 | 210 | 220 | 210 | − 1.6 | + 3.3 |
| Total Employment | 190 | 190 | 200 | 193 | + 3.6 | −0− |
| Unemployment | 10 | 10 | 20 | 13 | − 50.0 | + 33.3 |
| Unemployment Rate | 5.9 | 6.8 | 11.0 | 7.9 | − 37.3 | + 32.4 |
| Energy Consumption Sales (KWH) | | | | | | |
| Residential | 130 | 107 | 109 | 346 | − 22.2 | + 25.8 |
| Commercial | 1,355 | 1,364 | 1,462 | 4,181 | − 6.0 | + 10.7 |
| # of Customers | | | | | | |
| Residential | 303 | 309 | 316 | 309 | + 2.2 | + 21.8 |
| Commercial | 76 | 76 | 77 | 76 | + .4 | + 7.0 |
| Telephones in Service | 382 | 532 | 529 | 481 | − 2.0 | + 19.0 |
| Taxable Sales ($000's) | — | — | — | 789 | + 22.9 | − 1.0 |
| EUREKA | | | | | | |
| Total Labor Force | 630 | 670 | 730 | 676 | + 19.4 | + 9.7 |
| Total Employment | 610 | 630 | 670 | 636 | + 16.5 | + 9.8 |
| Unemployment | 20 | 40 | 60 | 40 | + 100.0 | + 9.1 |
| Unemployment Rate | 3.5 | 6.1 | 8.3 | 6.0 | + 84.5 | − 5.3 |
| Telephones in Service | 424 | 425 | 419 | 422 | + .6 | + 7.5 |
| Taxable Sales ($000's) | — | — | — | 2,339 | − 46.9 | + 7.1 |
| HUMBOLDT | | | | | | |
| Total Labor Force | 5,170 | 5,280 | 5,560 | 5,336 | + 12.8 | + 13.1 |
| Total Employment | 4,930 | 5,060 | 5,210 | 5,066 | + 12.0 | + 11.7 |
| Unemployment | 240 | 220 | 350 | 270 | + 30.6 | + 42.1 |
| Unemployment Rate | 4.6 | 4.2 | 6.3 | 5.0 | + 14.4 | + 24.8 |
| Telephones in Service | 6,997 | 7,015 | 7,106 | 7,039 | + 1.9 | + 9.2 |
| Taxable Sales ($000's) | — | — | — | 17,001 | + 22.6 | + 6.0 |
| Gaming Revenues ($000's) | — | — | — | 2,309 | + 33.6 | + 23.9 |
| LANDER | | | | | | |
| Total Labor Force | 2,230 | 2,290 | 2,330 | 2,283 | + 11.9 | + 13.0 |
| Total Employment | 2,130 | 2,190 | 2,250 | 2,190 | + 12.1 | + 11.9 |
| Unemployment | 100 | 100 | 80 | 93 | + 7.7 | + 47.4 |
| Unemployment Rate | 4.5 | 4.2 | 3.7 | 4.1 | − 3.9 | + 29.2 |
| Energy Consumption Sales (000's KWH) | | | | | | |
| Residential | 832 | 700 | 732 | 2,264 | − 19.8 | + 7.5 |
| Commercial | 12,617 | 14,152 | 15,268 | 42,037 | + 24.8 | + 24.4 |
| # of Customers | | | | | | |
| Residential | 1,465 | 1,504 | 1,527 | 1,498 | + 3.5 | + 11.6 |
| Commercial | 472 | 475 | 477 | 474 | + 1.7 | + 6.0 |
| Telephones in Service | 2,945 | 2,985 | 2,966 | 2,965 | + 1.5 | + 8.2 |
| Taxable Sales ($000's) | — | — | — | 8,129 | + 24.1 | − 8.8 |
| Gaming Revenues ($000's) | — | — | — | 261 | − 2.6 | + 0.4 |
| LINCOLN | | | | | | |
| Total Labor Force | 1,750 | 1,790 | 1,840 | 1,793 | + 10.5 | + 9.3 |
| Total Employment | 1,680 | 1,730 | 1,780 | 1,730 | + 10.7 | + 9.0 |
| Unemployment | 70 | 60 | 60 | 63 | + 5.6 | + 18.8 |

# Nevada Statistical Data by County (Continued)

| | April 1981 | May 1981 | June 1981 | 2nd Quarter 1981 | PERCENT CHANGE 1st Quarter-1981 2nd Quarter-1981 | PERCENT CHANGE 2nd Quarter-1980 2nd Quarter-1981 |
|---|---|---|---|---|---|---|
| Unemployment Rate | 3.9 | 3.6 | 3.4 | 3.6 | + 1.9 | + 16.0 |
| Telephones in Service | 2,432 | 2,474 | 2,493 | 2,466 | + 1.4 | + 8.2 |
| Taxable Sales ($000's) | – | – | – | 2,281 | + 16.7 | – 10.7 |
| LYON | | | | | | |
| Total Labor Force | 3,910 | 3,940 | 4,080 | 3,976 | + 5.2 | + 5.9 |
| Total Employment | 3,570 | 3,640 | 3,740 | 3,650 | + 7.5 | + 6.6 |
| Unemployment | 340 | 300 | 340 | 326 | – 14.8 – | 2.0 |
| Unemployment Rate | 8.6 | 7.6 | 8.3 | 8.2 | – 19.1 | – 7.9 |
| Construction Activity | | | | | | |
| Residential ($000's) | 515 | 224 | 233 | 972 | – 12.8 | + 30.5 |
| Nonresidential ($000's) | 217 | 141 | 256 | 614 | + 395.2 | + 923.3 |
| Total Value ($000's) | 732 | 365 | 489 | 1,586 | + 28.0 | + 97.0 |
| # of New Family Units | 15 | 6 | 6 | 27 | + 200.0 | + 92.9 |
| Energy Consumption Sales (000's KWH) | | | | | | |
| Residential | 2,991 | 2,814 | 2,975 | 8,780 | – 10.6 | + 2.5 |
| Commercial | 7,883 | 9,910 | 11,968 | 29,761 | + 53.9 | + 23.6 |
| # of Customers | | | | | | |
| Residential | 5,507 | 5,509 | 5,534 | 5,516 | + .9 | + 4.0 |
| Commercial | 1,255 | 1,264 | 1,277 | 1,265 | + 2.3 | + 5.0 |
| Telephones in Service | 6,620 | 6,652 | 6,697 | 6,656 | + 1.6 | + 4.2 |
| Taxable Sales ($000's) | – | – | – | 12,381 | + 14.6 | + 10.3 |
| Gaming Revenues ($000's) | – | – | – | 279 | + 19.2 | – 5.7 |
| MINERAL | | | | | | |
| Total Labor Force | 2,840 | 2,850 | 2,810 | 2,833 | – .4 | + 4.9 |
| Total Employment | 2,760 | 2,750 | 2,720 | 2,743 | + 1.2 | + 5.1 |
| Unemployment | 80 | 100 | 90 | 90 | – 32.5 | – 0 – |
| Unemployment Rate | 2.7 | 3.4 | 3.3 | 3.1 | – 30.9 | – 4.1 |
| Energy Consumption Sales (000's KWH) | | | | | | |
| Residential | 930 | 832 | 883 | 2,645 | – 15.4 | – 2.4 |
| Commercial | 2,946 | 3,309 | 3,313 | 9,568 | + 11.4 | + 52.2 |
| # of Customers | | | | | | |
| Residential | 2,160 | 2,185 | 2,191 | 2,178 | + .9 | + .6 |
| Commercial | 482 | 488 | 490 | 486 | + 2.4 | + 4.3 |
| Telephones in Service | 3,793 | 3,842 | 3,854 | 3,829 | + 1.8 | + 2.4 |
| Taxable Sales ($000's) | – | – | – | 4,975 | + 18.7 | + 18.3 |
| Gaming Revenues | – | – | – | 1,313 | + 32.4 | + 8.0 |
| NYE | | | | | | |
| Total Labor Force | 2,320 | 2,370 | 2,440 | 2,376 | + 8.0 | + 5.8 |
| Total Employment | 2,250 | 2,280 | 2,330 | 2,286 | + 7.9 | + 6.2 |
| Unemployment | 70 | 90 | 110 | 90 | + 12.5 | – 3.6 |
| Unemployment Rate | 3.0 | 3.9 | 4.5 | 3.8 | + 4.6 | – 4.2 |
| Telephones in Service | 10,959 | 11,300 | 11,574 | 11,277 | + 4.8 | + 9.7 |
| Taxable Sales ($000's) | – | – | – | 16,887 | + 8.8 | + 16.0 |
| Gaming Revenues ($000's) | – | – | – | 1,100 | + 17.4 | + 42.2 |
| PERSHING | | | | | | |
| Total Labor Force | 1,430 | 1,450 | 1,540 | 1,473 | + 8.9 | + 9.1 |
| Total Employment | 1,370 | 1,390 | 1,440 | 1,400 | + 8.2 | + 7.1 |
| Unemployment | 60 | 60 | 100 | 73 | + 22.2 | + 69.2 |
| Unemployment Rate | 4.3 | 4.3 | 6.6 | 5.1 | + 16.0 | + 52.0 |
| Energy Consumption Sales (000's KWH) | | | | | | |
| Residential | 565 | 504 | 534 | 1,603 | – 14.4 | – .7 |
| Commercial | 3,110 | 3,251 | 3,555 | 9,916 | + 7.2 | + 21.8 |
| # of Customers | | | | | | |
| Residential | 1,113 | 1,126 | 1,135 | 1,124 | + 2.1 | + 3.7 |
| Commercial | 379 | 410 | 387 | 392 | + 2.5 | + 9.3 |
| Telephones in Service | 1,917 | 1,934 | 1,946 | 1,932 | + 3.5 | + 7.9 |
| Taxable Sales ($000's) | – | – | – | 3,650 | + 47.8 | + 2.5 |
| Gaming Revenues ($000's) | – | – | – | 171 | + 40.2 | + 34.6 |

# Nevada Statistical Data by County (Continued)

| | April 1981 | May 1981 | June 1981 | 2nd Quarter 1981 | PERCENT CHANGE 1st Quarter-1981 2nd Quarter-1981 | 2nd Quarter-1980 2nd Quarter-1981 |
|---|---|---|---|---|---|---|
| STOREY | | | | | | |
| Total Labor Force | 1,180 | 1,200 | 1,250 | 1,210 | + 12.0 | + 21.0 |
| Total Employment | 1,110 | 1,150 | 1,180 | 1,146 | + 13.5 | + 17.8 |
| Unemployment | 70 | 50 | 70 | 63 | – 9.5 | + 137.5 |
| Unemployment Rate | 5.6 | 4.4 | 5.5 | 5.2 | – 22.5 | + 86.7 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 406 | 350 | 311 | 1,067 | – 17.5 | + .6 |
| Commercial | 1,890 | 1,815 | 1,661 | 5,366 | – .2 | + 14.2 |
| # of Customers | | | | | | |
| Residential | 625 | 627 | 631 | 627 | + .9 | + 7.4 |
| Commercial | 222 | 221 | 218 | 220 | + .5 | + 2.3 |
| Telephones in Service | | | | | | |
| Taxable Sales ($000's) | 977 | 993 | 2,634 | 4,604 | + 166.6 | – 15.4 |
| Gaming Revenues ($000's) | – | – | – | 607 | + 108.6 | + 8.6 |
| WHITE PINE | | | | | | |
| Total Labor Force | 3,490 | 3,420 | 3,440 | 3,450 | + 2.9 | –0– |
| Total Employment | 3,270 | 3,230 | 3,200 | 3,233 | + 4.2 | – .7 |
| Unemployment | 220 | 190 | 240 | 216 | – 13.3 | + 12.1 |
| Unemployment Rate | 6.4 | 5.6 | 7.0 | 6.3 | – 14.4 | + 12.4 |
| Construction Activity | | | | | | |
| Total Value ($000's) | 1,064 | 157 | 136 | 1,357 | + 291.1 | – 18.1 |
| # of Permits | 26 | 38 | 33 | 97 | + 79.6 | – 28.1 |
| Telephones in Service | 6,395 | 6,405 | 6,416 | 6,405 | + .9 | + 8.5 |
| Taxable Sales ($000's) | – | – | – | 12,569 | + 13.2 | + 29.1 |
| Gaming Revenues ($000's) | – | – | – | 604 | + 9.0 | + 40.1 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Selected U.S. and Regional Economic Indicators

## Consumer Price Index & Indexes of Selected Categories
## All Urban Consumers
## (1967 = 100%)

| | April 1981 | May 1981 | June 1981 | 2nd Quarter 1981 | PERCENT CHANGE 1st Quarter-1981 2nd Quarter-1981 | PERCENT CHANGE 2nd Quarter-1980 2nd Quarter-1981 |
|---|---|---|---|---|---|---|
| All Items | 266.8 | 269.0 | 271.3 | 269.0 | + 2.3 | + 9.8 |
| Food | 272.9 | 272.5 | 273.6 | 273.0 | + .9 | + 9.0 |
| Housing | 384.8 | 388.5 | 292.2 | 355.2 | + 26.5 | + 35.5 |
| Apparel and Upkeep | 186.4 | 186.4 | 185.8 | 186.2 | + 1.9 | + 5.0 |
| Transportation | 275.3 | 277.8 | 279.9 | 277.7 | + 3.0 | + 11.7 |
| Medical Care | 287.0 | 289.0 | 291.5 | 289.2 | + 2.4 | + 9.8 |

## Producer Price Indexes for Selected Commodity Groupings
## (1967 = 100%)

| | April 1981 | May 1981 | June 1981 | 2nd Quarter 1981 | PERCENT CHANGE 1st Quarter-1981 2nd Quarter-1981 | PERCENT CHANGE 2nd Quarter-1980 2nd Quarter-1981 |
|---|---|---|---|---|---|---|
| All Commodities | 292.8 | 293.7 | 294.5 | 293.7 | + 2.4 | + 11.3 |
| Fuel and Power | 703.8 | 706.0 | 704.9 | 704.9 | + 6.7 | + 23.5 |
| Machinery and Equipment | 259.2 | 260.6 | 261.9 | 260.6 | + 2.3 | + 9.9 |
| Metals and Metal Products | 298.7 | 299.2 | 298.5 | 298.8 | + 1.5 | + 5.6 |
| Nonmetallic Mineral Products | 310.2 | 311.7 | 312.8 | 311.6 | + 4.4 | + 10.1 |
| Textile Products & Apparel | 196.5 | 198.0 | 199.5 | 198.0 | + 2.4 | + 9.1 |

## U.S. Labor Force

| | April 1981 | May 1981 | June 1981 | 2nd Quarter 1981 | PERCENT CHANGE 1st Quarter-1981 2nd Quarter-1981 | PERCENT CHANGE 2nd Quarter-1980 2nd Quarter-1981 |
|---|---|---|---|---|---|---|
| Civilian Labor Force (000's) | 105,678 | 106,347 | 107,621 | 106,549 | + 1.5 | + 2.0 |
| Total Employment (000's) | 98,282 | 98,803 | 99,341 | 98,809 | + 2.3 | + 1.8 |
| Unemployment (000's) | 7,396 | 7,545 | 8,279 | 7,740 | − 7.3 | |
| Unemployment Rate | 7.0 | 7.1 | 7.7 | 7.3 | − 8.8 | − 1.4 |
| Unemployment Rate (Seasonally Adjusted) | 7.3 | 7.6 | 7.3 | 7.4 | + 1.4 | − 1.3 |

## DATA SOURCES

*Information for statistical tables were developed in cooperation with the following sources:*

Bell Telephone Company of Nevada; California Pacific Utilities Co.; Central Telephone Co.; Churchill County Telephone & Telegraph System; Continental Telephone Co.; F. W. Dodge Co.; Elko City Engineer; City of Fallon; Federal Reserve Bank of San Francisco; First American Title Co. of Nevada (Reno); Lake Mead National Recreation Area; Las Vegas Convention Authority; Las Vegas Dept. of Building & Safety; Lincoln County Telephone System; McCarran International Airport; Moapa Valley Telephone Co.; Mt. Wheeler Power Co.; Nevada Dept. of Highways; Nevada Department of Taxation - Cigarette, Liquor, Fuel, and Sales and Use Tax Divisions; Nevada Employment Security Dept.; Nevada Gaming Commission; Nevada Power Co. - Las Vegas and Elko Divisions; Nevada Telephone & Telegraph Co.; North Las Vegas Building Dept.; Reno Building Inspection Dept.; Reno International Airport; Reno-Sparks Convention Authority; Rio Virgin Telephone Co.; Sparks Convention Authority; Rio Virgin Telephone Co.; Sierra Pacific Power Co.; Sparks Building Dept.; U.S. Dept. of Agriculture-Statistical Reporting Service; U.S. Dept. of Commerce-Bureau of Economic Analysis; Dept. of Labor - Bureau of Labor Statistics; White Pine County Regional Planning Commission.

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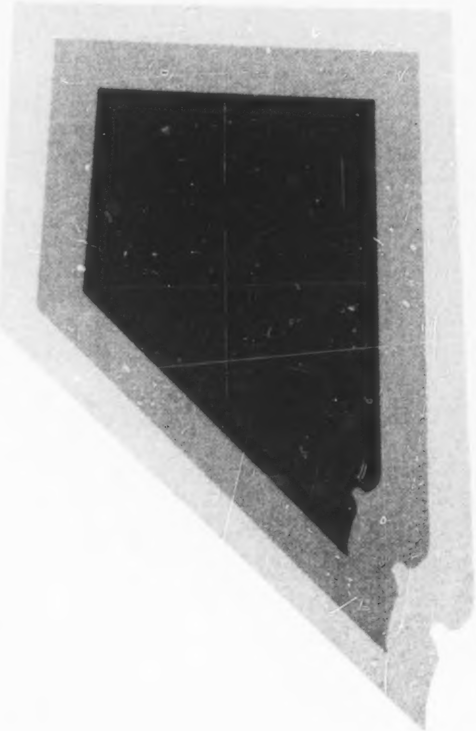

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## WINTER 1981-1982

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# Property Rights, Legal Efficiency, and The Political Economy of the Sagebrush Rebellion*

*by John L. Dobra and George A. Uhimchuk***

## I. Introduction

### Scope and Method

The "Sagebrush Rebellion" refers to a legal and political controversy over ownership of western lands held by the United States government and managed by the Bureau of Land Management (BLM). Nationally, the land area involved is approximately 400 million acres, or about one sixth of the land area of the United States. These lands make up over half of the total land holdings of the national government, approximately 770 million acres, or one-third of the national land area. U.S. government land holdings and related policies are primarily regional issues, since 93% of the total land holdings of the national government are in 12 western states.[1]

The "rebellion," hereinafter referred to as *Sagebrush*, was formally begun in 1979 in Nevada with the passage of AB 413 by the State Legislature. The U.S. government owns a total of 60.7 million acres in Nevada, which totals 87 percent of the state's area. By contrast, it is notable that the state of Nevada owns only 100,500 acres of the state's land area.[2] The *Sagebrush* legislation claims title for Nevada of 49 million acres managed by the BLM,[3] 68.4 percent of the land of the state. The huge acreages which may be affected by *Sagebrush* in Nevada and in the West have led its critics to call it "the biggest land grab in history," with some justification.

*Sagebrush* has elicited sharp responses from a large number of constituencies. Miners, ranchers, outdoor recreationists, environmentalists, and public officials at all levels of government have personal interests in the land and its uses. Understanding these alternative perspectives on *Sagebrush* is essential to understanding what is at stake beyond some 400 million acres of western real estate.

The issues examined in this article are strictly concerned with the social efficiency implications of property rights arrangements in the BLM lands. More precisely, the analysis focuses on the State of Nevada, and ways that property rights arrangements in BLM lands have influenced political and economic competition for benefits that may be derived from control of the land. Hence, we are concerned with the effects of extensive government land ownership on the operations of the private and public sectors of the Nevada economy. The most conspicuous problems of this sort are to be found in cases of "land-locked" communities and "checkerboard" land ownership patterns.[4]

Our interest in this fairly narrow set of issues has been prompted by discussions of the legal theories of *Sagebrush* and Federal property law by authors such as Anderson,[5] Brodie,[6] Clayton,[7] and Engdahl.[8] These authors have suggested that a potentially fruitful line of legal argument for Nevada and other western states is that the extensiveness of U.S. Government land ownership in these states diminishes their capacity to exercise sovereign prerogatives and fulfill obligations to their citizens. This legal argument is examined in Section II. Federal land law, social efficiency, and the political economy of *Sagebrush* are reviewed in Section III. In Section IV, the Nevada experience, the nature of the social and private costs and benefits associated with property rights arrangements and legal rules in Nevada are addressed directly.

Scholarly investigations of *Sagebrush* have been found mostly in law journals. John Baden's discussion of "property rights, cowboys, and bureaucrats" is the most notable exception.[9] These legal theories are of interest because they outline the doctrines of law and federalist theory operative in the western states' legal cases. However, without factual case material on potential impairments of state sovereignty to link these legal theories to evidence of damages to communities as a consequence of U.S. government land ownership, arguments on either side of *Sagebrush* appear to be moot. Our interests and objectives lie in exploring the links between U.S. government policies affecting the land and the sovereignty of the State of Nevada. The analysis is essentially descriptive, non-quantitative, and applies the theoretical frameworks of public finance, public choice, law and economics, and theories of economic regulation, in addition to the standard analytics of supply and demand.

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## II. Legal Theories of the Sagebrush Rebellion

The *Sagebrush* legislation passed by Nevada and similar measures considered by other western states base their claims to ownership of western lands on the "equal footing" doctrine. This Constitutional doctrine is both a philosophical principle and a political reality in a federal system. Independent sovereign states, such as the thirteen original colonies, would not have freely chosen to join a confederation of states unless they could be guaranteed political equality within the Union. Hence, political equality or, "equal footing," is a longstanding organizing principle of federalism.[10]

Using the "equal footing" doctrine, far western states argue, first, that the cessions of unappropriated lands required of them by Congress as a condition for admission to the Union imposed more stringent conditions for statehood than for states admitted earlier, viz., prior to 1864. Further, they argue that recent developments in Congressional policies and Supreme Court decisions respecting public lands are in direct conflict with the "equal footing" doctrine. Specifically, it is argued that the Federal Land Policy Management Act of 1976 (FLPMA)[11] and recent Supreme Court decisions[12] regarding the scope of Congressional authority relative to public lands have tended to impair the sovereign rights of states where national government land ownership is *extensive* vis-a-vis other states.

The issue of land cessions in western states' enabling acts has been addressed by Hulse and Brodhead[13] from an historical perspective. Their conclusion was that the nature and objectives of land cessions by states entering the Union after 1864 varied substantially from the treatment of states entering the Union prior to that year. Specifically, these authors argue that the primary purpose of the cessions was to enunciate and ensure the supremacy and sovereignty of the Union in a time of national crisis. Nevada's AB 413 contrasts Nevada's treatment with that of the State of Texas, admitted to the Union in 1845. Texas was not required to cede unappropriated land to the national government. In short, like the admission of new states during the Civil War, cessions of land were politically motivated and representative of a victory for the "anti-states' rights" forces in Congress.

This connection between the current system of U.S. government land ownership and the 19th century "states' rights" debate may be of some historical interest but it is important to note that the legal theories of *Sagebrush* are substantially different from the political theories of John C. Calhoun and other advocates of the "states' rights" position. The issue in *Sagebrush* is states' rights *vis-a-vis* other states, and not states' rights *vis-a-vis* the central government.

From this historical perspective it is quite clear that the circumstances under which Nevada, in 1864, and other western states entering the Union after 1864, were markedly different than the circumstances and conditions associated with the admission of states prior to that time. But, again, the "equal footing" doctrine relates to *political* equality and, hence, it is not sufficient to show that Nevada and other public lands states have been treated differently. It is necessary to show that the extent of national government land ownership and Congressional policies respecting public lands impair states' sovereign political rights: their police powers, powers to tax and regulate purely local economic interests and activities, and the right of eminent domain. As Constitutional historians Kelly and Harbison point out, Congress may impose any conditions it may choose as a prerequisite to entry into the Union, but ". . . Congress may not impose restrictions which impair the state's political equality in the Union."[14]

Hence, the land cessions themselves are not persuasive in Nevada's claim. Indeed, land cessions are the textbook example of an exception to the rule that restrictions imposed on states as a condition for entry into the Union are not generally binding.[15] That is, rights of states and individuals to own land are not rights that are protected under the "equal footing" doctrine. This exception is derived from the distinction, under the "equal footing" doctrine, between political or sovereign rights, and rights that are economic. Only the former are protected by the "equal footing" doctrine.

Our objective, of course, is to investigate possible linkages between the arrangement of economic property rights fostered by these land cessions and the sovereign rights of states and local governments where national government land ownership is extensive. Hence, we wonder, with Posner, ". . . whether political and economic rights are as neatly separable as the Supreme Court apparently believes."[16] If economic property rights and regulatory arrangements in western lands can be linked to impairments of state sovereignty, then these effects are closely related to Constitutional doctrines of inter-governmental relations, immunities and sovereignty that are not reflected well in narrow discussions of "equal footing" in the legal literature.

This latter line of legal reasoning is found in the series of decisions and opinions of the Court concerning intergovernmental relations. From the decision in *McCulloch v. Maryland*[17] through *Helvering v. Gerhardt*[18] and, most recently, *National League of Cities v. Usery*[19], the Court has dealt with the problems of maintaining the "multiple sovereigns" aspects of the federal system. These rulings provide a test and a distinction useful in examining the circumstances of public lands states.

First, the rulings in *Gerhardt* and *Usery* create a distinction between actions of a sovereign that are directed towards individuals, such as personal income taxation, and actions that are directed towards states, such as Congressional regulation of wages paid by state and local governments. The ruling in *Gerhardt* corresponds to the first case, where the Court ruled that the immunity of the sovereign does not extend to its employees; while the ruling in *Usery* corresponds to the latter case.

Secondly, Hughes' *Gerhardt* opinion suggests that inefficiencies that may be implicit in the existing property rights and regulatory arrangements in western lands may be acceptable if these inefficiencies are ". . . a necessary incident to the coexistence of the two . . . sovereigns." Additionally, such *de facto* regulation and taxation of the local or national sovereign by the other may be acceptable so long as the burden is one that the "Constitution presupposes."

The property rights and regulatory arrangements in question, where the national government holds one third of the national land area and substantially larger proportions in specific states, can hardly be considered to be an arrangement presupposed by the authors of the U.S. Constitution. Furthermore, these property rights and regulatory arrangements can hardly be viewed as necessary to the "coexistence" of the multiple sovereigns. Indeed, the opposite, the elimination of these arrrangements is more likely to assure the coexistence of the multiple sovereigns.

In taking this focus and attempting to draw a link between property rights and regulation of western lands and local sovereignty, we have, to some extent, assumed the roles of both advocate and critic. Advocacy and criticism, however, are implicit in a method of analysis that evaluates the merits and deficiencies of alternative property rights and regulatory arrangements. "As political economists we examine public choices; . . . make institutional predictions . . . [and] analyze alternative political-social-economic structures."[20]

For this reason the methods and conclusions here should not be confused with advocacy of either the Constitutionality or the desirability of Nevada's AB 413. Our findings can be summarized as indicating that there are theoretical, empirical, and Constitutional bases for the claim of impairment of local sovereignty as a consequence of extensive land ownership by the national sovereign. Yet to the extent that Nevada's AB 413 would simply transfer ownership of BLM lands to a comparable agency of the State, the analysis suggests that there may be little or no net benefit, financial or other, from this transfer. Only to the extent that the State government is likely to dispose of lands more quickly than the national government (in order to meet the costs of managing the land) would the literal enforcement of AB 413 generate more clearly defined property rights and greater local sovereignty.

## III. Federal Land Law, Social Efficiency, and the Political Economy of *Sagebrush*

The traditional treatment of western range lands as "commons" and their "privatization" provide a source of frontier folklore and an historical laboratory for observing the creation and protection of property rights. Hill and Anderson,[21] for example, cite the activities of cattlemen associations and technical innovations such as barbed wire fencing, as devices used by settlers to establish and enforce their property rights in the land.

The lands that are the concern of *Sagebrush* extend from the least productive desert lands to lands of marginal productivity that could not be profitably entered under the terms of Congressional land laws. In many cases, however, the proximity of "public" lands to private lands that could be profitably obtained led to the deterioration of the range from over-grazing.

The treatment of western lands as "public domain", or open range, was the fundamental cause of what Hardin has described as the "tragedy of the comons."[22] Hardin's analysis and others that followed indicated that unconstrained public access and use of the land provided no incentives for maintaining the productive, or exchange value, of the resource. Costs of resting or improving the range were borne entirely by private individuals who either reduced the size of their herds or invested in improvements. Enduring conservation and improvement of the range did not occur under a regime of public property rights in the land because the benefits of these actions accrued primarily to all users of the range. The prospective investor or conserver of the public resource could not "internalize" the "external benefits" of investing or conserving. For example, reductions in herd size by one would induce other users to increase their herds, and the investor could not excude competing users from benefiting from improvements on the range.

Uncontrolled public access and use of land led to the deterioration of ranges from over-grazing, sparked occasional range wars, and contributed to the almost total destruction of the productivity of the lands during the period from the settlement of the West to the passage of the Taylor Grazing Act of 1934. Through this grazing lease program administered by the BLM, Congress finally established a system of property rights under which only *access* to the land remained a public property right.[23] This was a step closer to a private property rights system and therefore an improvement over treatment of the land as public domain.

Shortcomings of other more recent U.S. government land management policies have drawn criticism from various interest groups and analysts. Baden, for example, has concluded that the BLM's practices of "rest rotation" and "Pinion Pine-Juniper chaining yield zero or negative rates of return on public investment.[24]

The most recent effort of Congress to modify its management policies, i.e., the FLPMA, does not deal with the fundamental problem caused by public property rights and arrangements. Moreover, the FLPMA has been viewed with some apprehension in the West because it provides for holding an unspecified acreage of U.S. government land in perpetuity and expands the regulatory role of the BLM. Historically, the policy of Congress has been selective disposal and retention of U.S. government land and therefore "land in perpetuity" provided for by the legislation apparently is not a departure from established practices. But the expansion of the role of the BLM is another matter. The BLM has administrative discretion over the use of the land and determines the procedures that must be followed to obtain use rights. Requirements for complying with administrative procedures to use or acquire title to land impose a *transactions cost* on private individuals and governmental agencies seeking to acquire rights to use BLM land.

If we assume that all land is owned privately or held in perpetuity by government, then the supply of private land may be represented by the vertical supply function in Figure 1. In Figure 1, the supply of land is fixed at $Q_0$, and the price is determined by the strength of demand for land of given productivity and location, represented by the demand func-

FIGURE 1

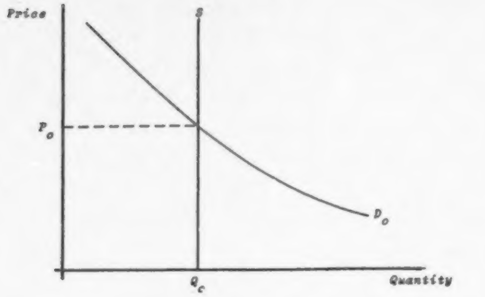
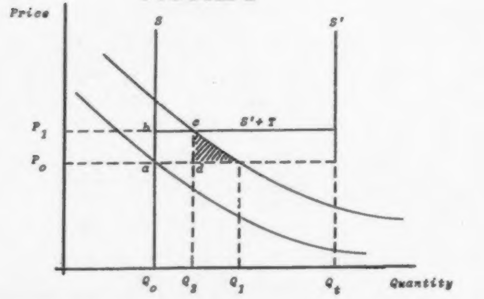


FIGURE 2



tion. $D_0$.

At its discretion, the government can offer land for sale and therefore cause the supply function for land to shift to the right. In a simplified example, assume that the national government offered to sell an unlimited quantity of land at a fixed price of $P_0$. Then the supply of land would be represented by the kinked line, S' in Figure 2, i.e., a perpendicular to S at $P_0$, extending to another vertical line above $Q_t$, representing the total quantity of land available on the market.

The introduction of transactions costs into this model gives us a new supply function $S' + T$, and a reduction of the equilibrium quantity of land sold from $A_1$ to $Q_2$ in Figure 2. The extent of this reduction, of course, depends upon the magnitude and nature of these transactions costs. Similarly, the elasticity of supply, $S' + T$, indicates the sensitivity of administrative procedures to changes in the value of its land holdings. Factors determining these transactions costs are the time-consuming processing of applications and delays in decision-making that result in a "dead-weight" welfare loss, represented by the shaded area in Figure 2.

Transactions costs are significant from an economic point of view because they tend to preclude mutually beneficial exchanges, thus causing a misallocation of economic resources. Hence, transactions costs impose a dead-weight, or nonrecoupable loss on society (as shown in Figure 2) in the form of lost opportunities for socially productive uses of land. An increase in taxes, fees, and commissions may drive perspective buyers out of markets for goods and services. Transactions costs raise the cost of, or tax, the reallocation of scarce resources to higher value uses. Like the effect of a tax, the cost associated with the application process may cause a dead-weight loss by preluding applications for uses which would be profitable without the transactions costs.

Policies affecting BLM lands, whether an intended consequence of policies or not, have the same effects on marginal activity on all lands to the extent that they are substitutes. The bid price of private lands which may be substituted for BLM lands will reflect both the productive value of the land involved and a premium, or economic rent, up to the monetary value the bidder places upon being able to avoid the transaction costs associated with an alternative site. Hence, *transactions costs are capitalized into private land prices as rents.* These premiums, or rents, are substantial and may amount to many times the value of the land. Therefore the present system of property rights in western lands causes significant distortions in land prices. This increased evaluation of private lands because of capitalized rents is represented in Figure 2 by the rectangle $P_0P_1$ba. The remaining rectangle in Figure 2, abcd, may be regarded either as a cost of compliance with regulations or it may be regarded as waste.

Applicants for use or purchase of land have differential abilities for complying with administrative procedures and for bearing risks associated with delays. Therefore some applicants will be harmed more than others by the administrative process. Large mining and ranching corporate interests, and local governments with adequate financial resources can bear costs of planning and submission of applications. Those most likely to be "priced out of the market" by administrative compliance costs are smaller mining and ranching interests, and local governments which do not have sufficient tax bases to support the necessary administrative staff. Transaction costs therefore drive marginal applicants out of the market and therein lies a major redistributive impact of U.S. government land ownership.

## IV. THE NEVADA EXPERIENCE

The State of Nevada ranks seventh in terms of land areawith approximately 70.7 million acres. At the same time, it ranks 46th in terms of population with an estimated 1981 population of 825,461.[25] Principal economic activities in Nevada are gaming and tourism centered in the two major metropolitan areas, Las Vegas in the south, and the Reno-Sparks-Carson City areas in the northwestern part of the State. Gaming and tourism contribute to local incomes and the tax base throughout the State but mining and ranching activities are dominant outside the two metropolitan areas mentioned.

As a consequence of 60.8 million acres of U.S. government property in Nevada, 49 million of which are managed by the BLM, private sector activity is very dependent upon bureaucratic channels for land acquisition (rather than traditional market exchanges) which have the effects described above. Since the BLM dominates the market in terms of "market share" as the single largest land holder, it has significant power to affect the price of land. This power exists in the BLM's administrative powers over the retention and disposal of lands, and it is an influence on the price of land in addition to the capitalization of transactions costs into the price of land as discussed above. Clearly, by comparison, the State of Nevada has no such power.

An examination of the impacts of the BLM's monopoly power in local land markets is extremely important in the framework of the legal theory of *Sagebrush*. On the one hand, these impacts take the form of affecting the profitability of activities on the land and, hence, concern private rights of an economic character. The specific effects examined below are impacts on mining and ranching activities. These impacts are of interest here because the economic value of the land and the profitability of activities on the land effectively limit the taxing powers of the sovereign. These impacts of national government land policies are described as "indirect." Consistent with the distinction posed above concerning actions of one sovereign directed at *individuals* vis-a-vis actions directed at *states*, the limitations of state sovereignity implicit in the effects of national land policies on mining and ranching profitability fall into the former category (individuals). Hence, these are indirect effects on the sovereign but, direct or not, they may be substantial.

These "indirect" effects are also of interest because to the extent that local governments operate in local markets and are influenced by local market conditions, such effects come to bear "directly" on the local sovereign. These effects of national policy on local governments, along with the other effects of national government policy on local governments, are discussed below.

### A. Mining and U.S. Government Land Ownership

The center of attention, particularly with respect to U.S. government land holdings, lies in the rural central and eastern parts of Nevada. The major urban areas of the state have either developed on private land, as in the case of the Reno-Sparks-Carson City metropolitan area; or, as in the case of Las Vegas, a "land-locked" community, the community has had sufficient funds for urban planning and land acquisition. Hence, these urban communities have largely been exempt from the difficulties in local government finance associated with extensive U.S. government land holdings.

It should be noted that private lands in communities which began as mining centers were originally patented as mining claims, e.g., in Austin, Eureka, Ely, Goldfield and Tonopah. As a consequence, and in contrast to communities where ranching and agriculture have been the traditional economic bases of the community, land for community development is scarce. Hence, "land-locked" communities and associated problems are most likely encountered in mining areas.

By tradition, prospectors and miners have had virtually unencumbered access to public lands for the purpose of developing mineral resources.[26] It would appear then that mining and prospecting activities are not adversely affected by the extensiveness of U.S. Government land holdings. However, it must be recognized that mining and prospecting are dependent upon service industries and a labor force which are generally located in nearby towns and communities. The mining town, comprised of private land and state/local government land, provides the necessary support in terms of inventories of capital equipment, service to maintain capital stock, housing for the labor force, retail sales, medical facilities, police protection, education, etc. All of these services supplied within the towns act to lower the costs associated with the development of mineral resources by minimizing the transportation costs of providing supportive services to mining operations. As the extent and intensity of mining grow in a particular region, it is expected that the size of the supportive community must necessarily grow also. This growth in the community would occur to a minimum scale determined by the size of the labor force that is attracted to the area.

A mining operation or business must be treated as a consumer when considering the inputs that the firm uses in its day-to-day operations. If land rents on existing private lands are driven up, as illustrated above, then the costs of doing business in the area increase. Hence, a link exists between the decisions made by the BLM and the costs incurred by mining operations. This linkage works through the land rents reflected in the prices of goods and services in the community.

### B. Ranching and Extensive U.S. Government Land Ownership

The effects of extensive national government land ownership on the ranching industry of Nevada are similar to the impacts on mining but are more complex. This is explained by the extensive dealings between members of the ranching industry and agents of the U.S. government, from the Departments of Agriculture and Interior. In the latter case, the ranching industry has a tenant relationship with the national government and, hence, the policies of the landlord have substantial potential to help or harm the tenants.

In this regard, it must be acknowledged that the industry and the State, in general, have been subsidized by the national government. These subsidies are evident in the grazing lease fee determination that adjusts fees according to the costs of production, for example. They are also evident in payments in lieu of taxes received by county governments[27] and the pass through of grazing lease revenues to the state.

These characteristics of the relationship between the industry, the state, and the national government notwithstanding, an examination of the property aspects of this relationship reveals problems generated under the existing property rights and regulatory arrangements in rangelands. The association of ranching interests with issues in *Sagebrush* has clearly not involved controversy over their subsidization by the national government. However, controversy has focused on areas where the industry has had poorly defined, or only informally acknowledged rights to the use of the land. Specifically, field investigations conducted in July 1981 revealed a number of issues of this sort arising from U.S. government policy that are of concern to ranchers. These issues include problems generated by noncontiguous lands holdings, the "wild" horse and burro issue, and prospects under the alternative property rights arrangements under the provisions of Nevada's AB 413.

### C. Inefficiencies of Noncontiguous Land Ownership Patterns

Under this heading there are two sub-issues of concern to ranchers. The first deals with public stock driveways. U.S. government land grants to railroads created areas known as "checkerboard" lands where BLM and private land parcels alternate.[28] Moreover, in other regions many ranchers own noncontiguous parcels separated by BLM lands. In order to use their own lands and lands leased from the BLM, ranchers have become dependent upon common access stock driveways which are strips of land that ranchers use to move their stock from one grazing area to another. The alternative is to truck the animals between grazing areas, a much more expensive procedure. Ranchers complain that new land entries pending under existing Acts will close off these driveways. This action would undoubtedly raise ranchers' costs and reduce the profitability of the industry.

The stock driveway issue is somewhat typical of these cases where poorly defined property rights in resources generate social costs. In this case, the market value of these common access privileges, along with access to grazing allotments discussed below, have generated rents. Consequently, their existence has produced spontaneous market responses and various political, legal, economic and social actions to acquire the rents and to protect them from being acquired. Social costs emerge in the case of the ranching industry in the form of private energies and resources being used to comply with costs imposed by regulation. Further, to the extent that public ownership fails to create a system of incentives to induce investment and improvement of the land, investment opportunities are foregone.

These consequences may be viewed as due to the differential treatment accorded access to common property resources in the market and by Congress. While access to common property resources is clearly a privilege that the industry enjoys, one regulatory objective noted by Ganzel[29] has been to make access "privileges" quasi-permanent as a means of creating proper incentives for maintaining the resources. Hence, the effect of regulation has been to induce the industry to incorporate access to the common property resources into its expectations and production plans.

This regulatory objective, however, has had a coincidental effect in the market of generating locational rents that have accrued to properties situated to be able to take advantage of the stock driveways and BLM grazing lands. Ranchers who purchases such properties have, consequently, paid these locational rents when acquiring them. These rents reflect the expected increased profitability of employing the common property resources along with privately owned resources. From the market's perspective it is immaterial whether access to the common property resource is a "right" or a "privilege" so long as the policy and behavior of the government is to make the resources available on a routine basis.

There is clearly a sense in which the industry has paid for its access "privileges." In the same manner that rents paid in mining communities became capitalized into the costs of doing business, these locational rents have become embedded in the ranchers' costs. Hence, the threat of entry on stock driveways, and the reduction of grazing allotments (see below, The "Wild" Horse and Burro Issue) not only reduce the profitability of ranching but also threatens to revoke a privilege that the industry has been led to rely upon by the past policies and actions of the government.

The second subissue related to noncontiguous land holdings are the problems encountered by ranchers in their attempts to control weeds and pests on their lands. This issue illustrates a classic case in which one set of property owners, ranchers, are directly harmed by the activities of another land holder, the U.S. government. Actually, in this case it is the lack of action of the BLM that is detrimental to neighboring proprietors.

In their efforts to control weeds and pests on their own lands, ranchers, acting alone or through special service districts,[30] incur the costs of spraying their lands. By controlling these pests on their own lands they also control them on BLM lands. In economic terms, ranchers generate an external benefit on BLM lands. The ranchers' compaint in this matter is two-fold. First, the BLM does not contribute to the costs of pest control and, hence, the BLM "free-rides" at the expense of the ranchers. Second, the BLM makes no efforts at pest control on their lands. Consequently, pests thrive on BLM lands and quickly return to the private lands after the spraying operations which, of course, raises the costs and reduces the profitability of ranching operations on private land. Like the suburban land owner who complains that weeds in his neighbors' years spread to his, the ranchers complain that the BLM is a bad neighbor.

### D. The "Wild" Horse and Burro Issue

The "wild" horse and burro problem is the second land use issue of concern to ranchers. The system that evolved on the open range in the West was that those individuals in the regions where the horses and burros roamed maintained the herds. In addition to having a market value, the horses presented the residents of the area and horse-lovers throughout the nation with aesthetic pleasure.

There are indications that a large proportion of the free-roaming horses on the range in Nevada were, in fact, the branded private property of ranchers that were allowed to "free-ride" on public domain. Putting the issue of trespass aside for the moment, private property rights in these horses meant that the herds were benefited by usual livestock management and breeding practices. Further, the herds were limited to an acceptable size determined by the ability of the land to support the nutritional needs of the horses and competing livestock. Because the local residents could monitor the herds at a relatively low cost and because they possessed the necessary skills in the management of livestock, the "wild" horses were efficiently managed. Truly *wild* horses, of course, are not private property, so that this fraction of the horses on the range did not enjoy these benefits.

The Wild Free-Roaming Horses and Burros Act of 1971 drastically altered this management scheme by empowering the BLM to manage these animals. In the opinion of many local residents and experts, the results have been disastrous.[31] Horse herds have over-populated the range to the detriment of cattle, wild-life, and the horses. Incidents of starvation and disfigurement due to lack of food and water among the horses have become more common as the horse herds have grown, and the horses' long-run prospects are indeed bleak. Thus an apparent act of compassion has unintentionally become one of condemnation.

This is a case in which a decentralized system of management was abondoned for a centralized system. Although the decentralized system did not work well in the sense that branded private property was allowed to "free-ride" on public domain, the fact that property rights were private assured that horses on the range would be adequately cared for. Moreover, the trespassing of private herds naturally limited the size of herds that were truly wild. Protecting "wild" horses by converting them into public property has clearly worsened the situation. The horses are still "free-riding" off the land, but now in greater numbers. Further, since they are now public property, no individuals are willing to incur the private costs to maintain and protect them, and we have adopted a bureaucratic management system which so far has proven to be a poor substitute for private management.

These cases shed light on the nature of ranchers' concerns and illustrate the consequences of the existing property rights and regulatory arrangements in western lands. In the cases noted above, ill defined, perhaps misunderstood, and often unenforceable rights to access to common property resources have led to controversy, such as *Sagebrush*. The ranching industry's interests in the cases above clearly have been in access to the land on which they have come to rely. *Sagebrush* and the objectives delinated in Nevada's AB 413, however, offer solutions that are problematic at best.

The prospect of regulation by the State has a number of pitfalls for the ranching industry, but apparently they are worth risking in light of the uncertainty generated by recent changes in Congressional policies and regulations. Because of this uncertainty, ranchers may favor *Sagebrush* even though they may have little hope of ever obtaining title to more land. On the basis of their alternative expectation of State control and management similar to the current BLM arrangement, ranchers may feel that State control will offer them greater political input into land policies. This line of reasoning leads to a scenario that critics of *Sagebrush* have elaborated. That is, ranching interests in the State Legislature may enable current users of BLM lands to enjoy most of the benefits of title to the land without the necessity of paying for it. The validity of this scenario clearly depends upon the degree that legislative influence may be substituted for the purchase of the land.

From the perspective taken here, State management of the type assumed above will offer little, if any, advantage over the current policies. Indeed, the literatures on property rights and rent-seeking are unambiguous on the point that social welfare will be increased by making the land available to profit-seeking individuals rather than rent-seeking speculators, politicians and bureaucrats.[32] This analytical perspective also suggests that the current property rights arrangements, specifically the grazing lease program and Congressional legislation protecting wild horses and regulating land use, encourage rent-seeking behavior by special interests of this sort.

However one regards the motivations of various interest groups, it should be recalled that their actions are strongly influenced by the political institutions and policies. Ranching interests' attempts to remedy the effects of national government policies through their State government are arguably both privately necessary and politically proper actions in a federal system.

### E. Impacts on Local Governments

The effects of extensive central government land holdings in Nevada are not limited to the private sector. There are clear indications that local governments are adversely affected. The total effect on local governments is the sum of the effects on both the revenue and expenditure sides of the communities' fiscal accounts.

The power to tax is an inherent sovereign power of government. This power is delegated by the State to local governments through provisions in the State Constitution, Article 8, section 8, implicitly mandates that this taxing power shall be limited. Historically, the property tax has been the most important source of revenues for local governments. Their second most important source (aside from user fees) is inter-governmental transfers, and primarily U.S. government grants.[33] There has been a continual decline in local governments' reliance on property taxes and an increasing reliance on inter-governmental transfers.[34] This trend has continued with the recent revisions of Nevada tax codes, rolling back of property tax limits and increasing the state sales tax rate. Local governments that become dependent upon inter-governmental transfers are likely to suffer a loss in local autonomy.

Increasing U.S. government taxes and distribution of tax money through Revenue Sharing and Block-grant programs have simultaneously limited the ability and need to generate revenues locally. However, extensive U.S. government land ownership in Nevada and removal of these lands from the tax base, intensifies these problems. As compensation for this situation local governments receive "payments in lieu of taxes" which are based upon acreage and population. Accordingly, in fiscal year 1979 the BLM paid a total of $5.5 million to Nevada counties in lieu of property taxes on BLM lands.[35] In contrast, the total ad valorem tax collections in Nevada were $176.4 million in the same year.[36]

Recalling that the BLM controls some 49 million acres in Nevada, it follows that local governments receive about 11¢ per acre. In contrast, the average payment per acre for private property in the state was $17.72. This, of course, includes revenues from the taxation of improvements on the land. Tax payments for agricultural land, which would be more comparable to the BLM's holdings, appear to lie in the range of $1 to $3 per acre.[37]

It is clear that the in lieu of tax payments received by local governments in Nevada are a far cry from the tax revenues collected when the land is privately held. However, quality differences in the land must be considered in interpreting these figures. Some BLM lands are alkali flats and in these cases qualitative differences are so extreme that comparisons are worthless. On the other hand, in cases where the differences in value between BLM and adjacent private lands are caused by private investment or by the treatment of land as "public domain," comparisons are quite meaningful.

In light of uncertainty generated by the quality of BLM lands *vis-a-vis* private lands, the issue of whether local government revenues would be greater than payments in lieu of taxes currently received remains a question. However, two points are clear regarding the issue. First, under the current system, in lieu of tax payments are determined by the U.S. Congress rather than the Nevada Constitution, the Nevada Legislature, or by local governments. Hence, the State has little input into the determination of these payments as its sovereign powers to generate revenues have been preempted. Second, under the property rights arrangements proposed by Nevada's AB 413 there would be no alleviation of this problem since the State enjoys a similar immunity from taxation by local governments. Hence, short of some kind of state transfer to local governments, e.g., a pass-through of leasing revenues from "State" grazing lands, AB 413 has relatively little to offer local governments.

The ability of any type of tax to produce revenue is dependent upon the base of the tax, its rate structure, and the tax rate. The base is the object of the tax. The rate structure refers to tax rate changes associated with changes in some parameter within the base. The structure determines the progressivity of the tax and affects its revenue producing ability by establishing rate classes. The greater number of rate classes, the greater the amount of revenue obtained from the tax. In other words, the rate structure determines the degree to which a government can discriminate by charging different uses of land a different tax rate.

The United States government is not only capable of affecting the value of the tax base, but it may also control the rate structure of property taxes by influencing the use of a particular parcel of land through the policies of the BLM and through environmental laws, OSHA (Occupational Safety & Health Act) regulations, wilderness area designations and any other legislation that either excludes particular activities altogether or increases their cost. Consequently the ability of the United States government to regulate activities on land also affects the rate structure of the property tax system in Nevada.

The degree to which the United States government affects the profitability of mining has adverse effects on local governments' only alternative to the property tax, i.e., the net proceeds tax on the output of mines. High land rents in mining communities discourage mining activity and limit potential revenue from the net proceeds of mines tax.

A final comment on the revenue side of the State's fiscal accounts deals with deficit financing. Although there are no indications that Nevada governmental entities are currently experiencing any difficulty in selling bonds, this is a potential source of future problems for localities. The backing for revenue bonds will shrink if tax bases and the net proceeds of mines tax decline. If this were to occur, it is reasonable to expect that investors would lose confidence in the ability of rural Nevada communities to amortize their debt instruments.

Clearly, the U.S. government appears to be encroaching upon the sovereign powers of the State of Nevada to generate revenues through a system of taxation. The national government effectively controls two of the three determinants of the revenue generating power of the property tax, viz., the tax base and the rate structure. It also has substantial influence on the base of the net proceeds tax on mining output and on the base of the sales tax.

### F. Impacts on Local Governments' Provision of Productive and Protective Services

On the expenditure side of local governments' fiscal operations the effects of extensive national government land ownership in Nevada probably constitute the most obvious violations of local sovereignty along the lines of our discussion of legal theories of *Sagebrush*. To the extent that local governments are land users and attempt to regulate the activities of other users, local governments must pay the rents on land; they must bear the transactions costs of dealing with the BLM, and also bear dead-weight losses just like any other consumer.

The Nevada Constitution mandates certain services which require expenditures of tax revenues. Protective services are mandated in Articles 4, 6, and 12; productive services are mandated by Articles 11 and 13. To the extent that performance of these protective and productive services depends upon expenditures for manpower, goods, services, and land, local governments must compete in the market.

As we have already seen, the impacts of the BLM in the market for land and distortions of prices are identical to the effects of a tax. The transactions costs imposed in the market for land have the same impact on the allocation of resources that a tax on land transactions would have. Transactions costs are especially burdensome in sparsely populated counties where maintaining local governmental staffs to comply with BLM administrative procedures is very expensive on a per capita basis.

Quantitative evidence on the magnitude of rents and price distortions, unfortunately, is scarce and difficult to evaluate when available. For example, an estimate of the dollar value of transactions costs, land rents, and dead-weight losses cannot be made with any reasonable degree of confidence because of the large number of intervening variables such as site values, land productivity, proximity to mining activity, potential MX missile deployment areas, etc.

Because of this lack of quantitative information we must rely on the behavior of individuals to indicate the existence and magnitude of these damages. In this regard the case of "lead-frog" development in "land-locked" communities is illustrative of the way in which U.S. government land ownership impairs traditional sovereign rights to regulate purely local affairs and provide public services.

"Land-locked" communities are unable to expand on contiguous private land and therefore are forced to seek

BLM land through an application process. The alternative, in most cases, is to develop noncontiguous private land in the vicinity in order to relieve the pressure on rents and public services in the community. Despite its lower site value because of its distance from the community, the noncontiguous lands are worthwhile developing from an entrepreneur's perspective because of the high rents paid on private land. An additional consequence of the rent is that commercial and residential users of the land willingly incur the higher costs associated with using these noncontiguous parcels to avoid paying the rent.

Individuals incur higher transportation costs and higher costs of developing and providing services to noncontiguous developments because of the cost associated with attempting to acquire contiguous parcels from the BLM. The cost of acquiring and developing many BLM lands is prohibitive thus limiting growth opportunities of affected Nevada communities.

In areas developing via this process of "leap-frogging" from one island of private land to another, local governments have a mandate to develop land use plans as in other communities. However, in the face of limited alternatives for private developers, population growth, commercial development, and subsequent high rents, local officials find it difficult to limit local alternatives further in the interests of long-run urban planning goals. Consequently, it is not surprising that such areas are characterized by the near total lack of such planning guidelines, and by minimal compliance with these mandates.

It should be noted that such minimal compliance does not indicate disapproval of the goals of urban planning or a disregard for the amenities of orderly growth. It is quite possible that local governments find themselves in a situation where pursuing these worthy long-run objectives preludes short-run options for development that are highly valuable, given pressures on the community from growth and rents. Hence, in spite of mandates and a genuine desire to achieve the objectives of planning, local governments find their options so severely limited that pursuing these objectives interferes with more urgent and basic local government functions.

One example of the way that the attempts of local governments to meet local needs are frustrated concerns the application of Nye County School District for BLM land for a football field in Tonopah, a "land-locked" mining "boomtown." The application was pending for more than ten years. In the meantime, the School District entered and "squatted" on the land. This approach has worked successfully in some cases, but squatters run the risk of eviction and incurring the costs of locating and developing an alternative site.

More to the point of our discussion of sovereignty, however, an agency of the State of Nevada was forced by circumstances related to national land ownership to trespass on BLM lands in the exercise of its traditional local sovereign functions. While this case is somewhat (but not entirely) unique in the length of time required to process the application, it is quite typical of the way that existing property rights and regulatory arrangements in the land limit the capacity of local governments to exercise traditional prerogatives.

## V. CONCLUSION

Our discussion of the efficiency implications of U.S. government land policies has been limited to ways these policies have distorted the operations of the private sector and public institutions. Deadweight losses have been imposed on both the private sector and public, political institutions. Problems in the public sector are most relevent to the legal theories of *Sagebrush* because these distortions and deadweight losses are directly traceable to the extensiveness of U.S. government land holdings and policies and regulations governing the use of the land. When local governments purchase or condemn private land it must pay rents generated by these policies. Alternatively, in applying for BLM land, local governments are taxed first by BLM generated rents in the form of inflated land prices and secondly by the transactions costs associated with acquiring land.

One of the most significant ways that the social efficiency concerns relate to Consitutional issues, however, rests in the relationship between the state and national governments in public land states. Ostrom's discussion of Federalist views on the necessary and proper relationship between the national government and the states in his "Political Theory of the Compound Republic" provides a useful perspective for addressing this issue further.[38]

The "compound republic," "multiple sovereigns," or system of "concurrent regimes" are all descriptions derived from the *Federalist Papers* and used by Ostrom to describe the "federal principle."[39] The state and national governments, in Madison's words, are ". . . but different agents and trustees of the people, constituted with different powers and designed for different purposes."[40]

With this division and specialization of sovereignty, however, it is imperative that each sovereign should have general competence within the scope of its jurisdiction. Ostrom summarizes the Hamilton and Madisons' views on the appropriate relationship between the states and the national governments noting that "[t]heir object was to maintain the essential legal and political independence of the states and of the federal government so that each might govern in its sphere without being usurped by the prerogatives of the other."[41] This result was achieved through the enumeration of the powers of the national government that are supreme in relation to the powers of the states, while leaving state authority supreme and plenary in areas beyond the scope of national jurisdiction.

As noted at the outset, the focus on the impacts of U.S. government land ownership on local governments was selected to explore areas that are clearly beyond the scope of the national government's authority. Hence, we assume such areas exist in spite of the Court's opinion in *Kleppe v. New Mexico* that Congressional authority over public lands is "without limit"[42] under Justice Marshall's strict interpretation of Article IV. In this strict interpretation, however, Article IV seems to provide little justification for authority to implement policies obstructing the states' sovereign authority under the Tenth Amendment. So long as the effects of these policies towards public lands pursued by Congress are not limited to the lands, but spill-over in substantial ways to burden the states, the discretion of Congress is either limited by, or apparently over-rides the Tenth

Amendment. The latter, of course, would not be a "strict" interpretation of Congressional power under Article IV.

The impacts of extensive national land ownership in public lands states suggests that their sovereign prerogatives have been usurped by the Congressional policies and plenary Congressional power respecting public lands. These usurpations have taken two general forms above. The first of these relates to the dependence of local authority on the administrative discretion of the national government created by the existing property rights arrangements in public lands. The second consequence of these property rights arrangements that tends to usurp local authority concerns the limitation of local options. That is, while local authorities do have options and administrative mechanisms to appeal to for relief, the effects of extensive national land ownership tend to limit these options.

One case in point noted above concerns the dependence of local governments on the administrative policies and discretion of agents of the national government rather than traditional market mechanisms or their own powers of eminent domain. The magnitude of this reliance is reflected in a report to the Secretary of Interior, James Watt, from Governor Robert List of Nevada in April, 1981, on "Federally Owned Land Transfers Necessary to Meet Community and State Needs."[43] This report provides a description of over one million acres of land, an area comparable to the state of Delaware, that had either already been requested, or was designated as under consideration for future request, by the state and local governments. Approximately one third of these lands had already been requested at the time of the report.

The way that this arrangement burdens local governments and frustrates local decision makers by limiting local options and creating a dependence upon the national government can be illustrated by numerous cases cited in the List report. Cases that parallel the discussion above that are raised in the List report include development problems in and around the community of Laughlin, Nevada and flood control, pollution, and other problems in the City of Henderson, resulting from BLM procedures.

In these cases and many others, local authority has been preempted entirely or substantially limited. In the Laughlin example, the report states that as a result of the areas' location at the southern tip of the State and recreational opportunities, the community is "experiencing volatile development pressures. . . . Development in the Laughlin area is basically confined to those private holdings already in existence at least for the near future."[44] The report also notes that "[T]hree owners control over 95% of all planned residential development areas. Sale or transfer of federal lands in the immediate Laughlin vicinity would create a better supply and demand balance with which to lever the start of residential development, avoiding fractured development which would occur under existing ownership patterns. The Division of Water and Power Resources and the Bureau of Land Management control most developable land in Laughlin."[45]

In the case of the City of Henderson, a similar preemption of local authority resulting from land ownership patterns is noted in the report. In this case: "Recent sales of federally owned five-acre parcels to private citizens has resulted in poor flood control protection, increased dust pollution from unpaved streets, and a street grid system which is costly to construct and maintain. Acquisition of these lands (requested) by the city would enable planning and development of essential public facilities and subdivisions at a lower cost to taxpayers."[46] Hence, the issues of the usurpation of traditionally local sovereign prerogatives derived from extensive U.S. government land ownership and limitless Congressional powers respecting public lands are of concern to state and local authorities as well as a burden on the communities involved.

In this discussion of the usurpation of local authority, Congressional interference in local affairs, there are several essential qualities in common with the cases cited at the outset, *Gerhardt* and *Usery*.[47] In particular, in each of these cases the actions of the sovereign are distinguished on the basis of whether they impact on individuals or other sovereigns. A fundamental dissimilarity between the case of public lands and the cases of inter-governmental taxation and regulation cited, however, concerns the inability of Congress or the Court to selectively immune local governments from the effects of extensive land ownership by the national sovereign. This dissimilarity, of course, makes remediation of the problems associated with these property rights arrangement slightly more difficult.

The remediation offered by *Sagebrush*, as we have noted above, is arguable at best. Yet, whatever drawbacks proposals such as Nevada's AB 413 may have they do serve to publicize, and open to question, the social, political, and economic consequences of property rights and regulatory arrangements in the land. Whether remediation of these problems can be achieved without some kind of radical reassignment of rights is a difficult issue for future consideration.

As long as the status quo is maintained, however, Nevada and similarly situated public lands states will continue to bear the costs and other burdens described above. Earlier it was noted that Nevada is the seventh largest State in terms of land area. The foregoing discussion suggests that this description is somewhat misleading. When viewed in terms of private land that the State has the power to regulate on an "equal footing" with states on the eastern side of the Rocky Mountains, Nevada is a state about half the size of Maine or South Carolina, or two-thirds the size of West Virginia. From this perspective Nevada is more accurately described as the tenth smallest state rather than the seventh largest.

It is readily acknowledged that size is not the issue. The concurrent regimes have been designed, in part, to negate the impacts of geographical size in the grant of equal political sovereignty. The issue is clearly one of whether the national government's property rights in western lands and Congressional authority to make policies respecting these lands have thwarted more fundamental Constitutional objectives.

However this question may be answered or disposed of in the future, we emphasize that property rights and regulatory arrangements create a behavioral setting which needs to be analyzed in detail. Through this kind of analysis we avoid some of the problems examined above.

***Footnotes:***

[1] U.S. Department of Interior, Bureau of Land Management, *Public Land Statistics, 1979* (Washington, D.C.: U.S. Government Printing Office, 1981) 778-144, p. 1; p. 9.

[2] "Means of Deriving Additional State Benefits from Public Lands," Legislative Counsel Bureau, State of Nevada, Bulletin No. 77-6 (Dec. 1976), p. 13.

[3] Legislative Commission of the Legislative Counsel Bureau, State of Nevada, *Report of the Select Committee on Public Lands,* March 1981 Bulletin No. 81-22, pp. 26-32.

[4] "Land-locked" communities are surrounded by U.S. government property, and, as noted in the text, are most likely mining communities. "Checkerboard" land ownership patterns are the consequences of the original U.S. government land grants to railroads.

[5] Frederick R. Anderson, "Public Land Exchanges, Sales, and Purchases Under the Federal Land Policy and Management Act of 1976," *Utah Law Review* 1979, no. 4, pp. 657-700.

[6] Albert W. Brodie, "A Question of Enumerated Powers: Constitutional Issues Surrounding Federal Ownership of the Public Lands," *Pacific Law Journal* vol. 12 (1981), pp. 693-726.

[7] Richard D. Clayton, "The Sagebrush Rebellion: Who Should Control the Public Lands?" *Utah Law Review* 1980, no. 3, pp. 505-533.

[8] Engdahl, "State and Federal Power Over Federal Property," *Arizona Law Review* 18 (1976), p. 283.

[9] John Baden, "Property Rights, Cowboys, and Bureaucrats: A Modest Proposal," in John Baden, ed., *Earthday Reconsidered* (Washington, D.C.: Heritage Foundation, 1980).

[10] The "equal footing" doctrine is addressed in much greater detail by the legal scholars cited above in notes 5-8. Supreme Court cases and opinions addressing the issue include: *Pollard v. Hagan,* 44 U.S. (3 How.) 212 (1845); *Coyle v. Oklahoma,* 211 U.S. 559 (1911) *U.S. v. Oregon,* 295 U.S. 1 (1935); *Oregon ex rel. State Land Board v. Corvallis Sand and Gravel Co.,* 429 U.S. 363 (1977).

[11] Public Law 94-579.

[12] e.g., *Kleppe v. New Mexico,* 426 U.S. 529 (1976).

[13] James Hulse and Michael Brodhead, "An Interim Report to the Attorney General on Constitutional and Historical Data relating to the 'Sagebrush Rebellion,' " (1980), unpublished manuscript. Section 3.

[14] Alfred Kelly and Winfred Harbison, *The American Constitution,* 5th edition, (New York: W. W. Norton and Co., Inc., 1976), p. 252.

[15] Ibid.

[16] Richard A. Posner, *Economic Analysis of Law,* 2nd edition, (Boston: Little, Brown and Co., 1977), p. 550.

[17] *McCulloch v. Maryland,* 17 U.S. (4 Wheat.) 316, 4 L.Ed. 579 (1819).

[18] *Helvering v. Gerhardt,* 304 U.S. 405, 58 S.Ct. 969, 82 L.Ed. 1427 (1938).

[19] *National League of Cities v. Usery,* 426 U.S. 833 (1976).

[20] James M. Buchanan, "Before Public Choice," in Henry Manne, *The Economics of Legal Relationships* (St. Paul, Minnesota, West Publishing Co., 1975) p. 69.

[21] P.J. Hill and Terry L. Anderson, "Property Rights as a Common Pool Resource," in John Baden and Richard L. Stroup, eds., *Bureaucracy vs. Environment,* (Ann Arbor: The University of Michigan Press); pp. 22-45.

[22] Garrett Hardin, "The Tragedy of the Commons," *Science,* 162:1243-48, 1968. Also see Garrett Hardin and John Baden, *Managing the Commons,* (San Francisco: W.H. Freeman and Co., 1977).

[23] George C. Coggins and Charles F. Wilkinson, *Federal Land and Natural Resource Law* (Mineola, N.Y.: The Foundation Press, Inc., 1981) pp. 132-140.

[24] John Baden, "Property Rights, Cowboys and Bureaucrats: A Modest Proposal," op. cit.

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[37] Division of Agricultural and Resource Economics, University of Nevada, Reno, "Economic Impacts of BLM Grazing Allotment Reductions on Humbolt County, Nevada," (February, 1980), pp. 41, 42, 46, 47. In many cases the only difference between private land and public land is in the existence of capital improvements on the land, particularly water rights.

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[40] *The Federalist Papers,* #46, (New York: G.P. Putnam's Sons The Knickerbocker Press, 1889), p. 292.

[41] Ostrom, *op. cit.*, p. 71.

[42] *Kleppe* v. *New Mexico* 426 U.S. 529 (1976).

[43] Robert List, "Federally Owned Land Transfers Necessary to Meet Community Needs," Submitted to Secretary of the Interior, James Watt, April, 1981.

[44] ibid, at Clark Co., p. 2.

[45] ibid.

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[47] supra at notes 18 and 19, respectively.

# Measuring Bank Risk in an Unregulated Environment

*By Robert N. Barone**

## Introduction

Since the large number of bank failures in the 1930s, banking law has been concerned with regulation and the prevention of failure. The basic attitude of the regulatory agencies has been that failure of even a small number of depository institutions must be prevented.[1] It is public knowledge that the regulatory authorities maintain lists of "problem banks" that are kept secret from the public, presumably to reduce the risk of runs.[2] Such a scenario could not possibly be played out by any other public agency.[3]

It has been nearly 50 years since the major banking reforms of the 1930s, and certainly the social fabric and institutions have changed. And because of the capitalist system's basic economic philosophy, as time passed and the changes were occurring, the financial system found it easy to evade the constraints of the legislation.[4] This led to patchwork reforms, many inequities, and may even have caused many of the problems in today's financial environment.

## Implications of Deregulation

The passage of the *Depository Institutions Deregulation and Monetary Control Act of 1980* appears to have ushered in a new era in banking. While the reformers of the 1930s "interpreted a sound financial system as one in which competitive forces were restrained," eventual removal of the constraints is the goal of the new law.[5] One of the stated purposes of the act is "to provide for the gradual elimination of all limitations on the rates of interest which are payable on deposits."[6] Thus, it appears that it is the intention of the act to "move the financial system toward a more competitive framework and reduce and/or eliminate the artificial heterogeneity that has been maintained among financial institutions via portfolio restrictions and interest rate ceilings."

> A sound financial system is now regarded as one in which competitive forces are allowed more flexibility and where failure of some individual institutions is to be expected.[7]

## Identification of Problem Banks

If we are indeed entering a new era of banking in which we can expect failures to become more commonplace, development of tools to measure bank risk will certainly occur. Because of regulation, deposit insurance, and the secrecy with which problem financial institutions have been handled, models measuring the risk of bank failure have been few. And there is some empirical evidence indicating that the public views bank size as a proxy for bank safety.[8] Certainly, if bank failures become more common, such a perception will give way to more scientific, or at least more sophisticated, measures of risk.[9] If such tools are to be useful, the risk measures should be based on the most recent bank data.

The banking literature contains a few models which attempt to predict bank failure, or at least identify problem banks. These models were developed mainly as an aid to the regulators.[10] All of the existing studies found that "ratio analysis of financial statements can successfully discriminate between financially troubled and sound banks."[11] For example, in 1970 Meyer and Pifer [7] used multiple discriminant analysis to examine bank failures. Their discriminant variables were financial ratios. Korobow and Stuhr [4] used 12 ratios to predict bank problems, and in several studies [11] [12] [13] [14] Sinkey employed financial ratios. In most of these studies, ratio differences were able to provide "reliable prediction of bank failure . . . within one or two years prior to closing."[12] Recently, Rose and Scott [9] found that

> failing institutions tend to be statistical outliers for an extended period of time, rather than only one or two years as suggested by previous research. Thus, the financial profile of the average U.S. failed bank is not similar to, but instead markedly dissimilar to other banks of comparable size serving the same market.[13]

## The Ratios

For the past several years, the author has been concerned with the risk return tradeoff in the market for large certificates of deposit. Past research has shown that the larger money center banks could "buy" funds more cheaply than non-money center banks despite the fact that certain financial ratios of the money center banks were considerably weaker. The conclusion was "that those responsible for the demand for large CDs . . . use size as a proxy for safety."[14]

Below is a discussion of appropriate financial ratios which

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may be used to measure bank safety, followed by a conceptually simple analytical tool to uncover potential problem banks quickly and effectively. In an environment where government intervention, protection and regulation are lessened and the risk of failure is increased, the mystique which equates size and safety will give way and the void will be filled by some analytical technique using the methodology outlined below or something similar.[15]

Table 1 defines the nine ratios chosen for the analysis. The ratios chosen fall into four basic categories: 1) liquidity; 2) equity strength; 3) profitability; 4) loan quality. Others have used similar breakdowns.[16]

TABLE 1

**Nine Ratios Chosen for Identification of Problem Banks**

**Liquidity**

(1) Loan/Deposit: This is a measure of leverage. During tight money periods, a high ratio may cause liquidity problems.

(2) Purchased Funds/Assets: A bank which "buys" a large amount of its funds is vulnerable in tight money periods. Purchased funds include federal funds, borrowings, $100,000 CDs.

**Equity Strength**

(3) Equity/Assets: A high ratio indicates the ability to absorb losses.

(4) Debt/Equity: A large ratio shows excessive leverage and limits further access to the capital markets.

**Profitability**

(5) Return on Assets (Operating Earnings/Assets): A low return means poor investments, large non-earning assets, and/or poor management.

(6) Return on Capital (Operating Earnings/Debt + Equity): A low return means excess capital for the earnings level.

(7) Profit Margin (Pre-tax Earnings/Total Income): This ratio indicates the overall earnings capability of the assets, the costs associated with the liabilities, and the overall quality of management.

**Loan Quality**

(8) Charge Offs/Loans: A high ratio indicates too many bad debts and poor underwriting criteria.

(9) Valuation Reserves/Loans: A low ratio shows that loan loss reserves are too low to absorb large losses without an adverse impact on earnings and/or capital.

The removal of interest rate ceilings has implications for these ratios. On the one hand, liquidity strains will be lessened as financial institutions more effectively and efficiently tap sources of funds. On the other hand, profitability may decrease as competition for funds has adverse effects on yield spreads.[17] Historically, loan underwriting at U.S. financial institutions has been adequate; since the financial reforms of the 1930s, few bank failures have been due to defaults in arms-length loan transactions. But increased risks in international lending as seen from the rising number of extensions in repayment schedules granted to sovereign governments of developing and underdeveloped countries,[18] and recent changes in U.S. bankruptcy legislation, may impact the loan quality ratios.

As for the specific ratios chosen, ease of calculation was the primary consideration. Most of the nine ratios shown in Table 1 have been used successfully, in some form, by other researchers. Rose and Scott [9] found that the loan/asset ratio was the most important variable in distinguishing between failing and solvent banks; Sinkey and Walker [14] found that capital adequacy and earnings ratios were significant in distinguishing problem from non-problem banks; and Stuhr and Van Wicklem [15] used measures of asset quality, capital adequacy, and the loan/asset ratio, among others, to forecast bank examination ratings. Ratios involving income, borrowed funds, and deposits were used as predictors of financial deterioration by Korobow and Stuhr [4]. And, Sinkey, in his study of the failure of U.S. National Bank of San Diego [13], found that the bank's income ratios and capital ratios had significantly deteriorated prior to failure.

**Methodology**

The methodology used to identify problem banks is based on the Rose and Scott [9] finding that failing institutions tend to be statistical outliers for an extended period of time. The basic assumption employed by the methodology is that the group of banks under scrutiny comes from a homogeneous group. It is not necessary to obtain a random sample representative of all banks in the population, as it is not postulated that banks of different size display the same or similar financial ratios. It is assumed, however, that the financial ratios of, say, a sample of money center banks or a sample of banks with assets between $100 and $200 million, come from the same population. For purposes of this exposition, the largest 100 banks by asset size are used. Data were obtained from the FDIC tapes, Call and Income Reports.

For each particular ratio, the mean is formed from the sample drawn. It is assumed that the population is normally distributed and it is hypothesized that each ratio of each bank in the sample is not significantly different from the sample mean formed for that ratio. To test the hypothesis, t-scores are formed. The individual investigator is free to choose the level of significance at which to reject the hypothesis. However, a one-tail test on the appropriate tail is suggested.[19] The overall rank of each financial institution is found by summing the rank of each of the nine ratios; the lowest sum is accorded the best rank. The investigator may take separate account of those t-scores which fall into the weak side tail of the distribution. The appendix shows a sample of the analysis for June 30, 1978 data. The notes to the appendix aid in reading and interpreting the data.

**Preliminary findings**

There were three findings from the data analyzed:

1) The 100 largest U.S. banks are not homogeneous, as the larger banks generally fared poorly in each analysis performed. Perhaps a small number of banks (the largest 50) would be more homogeneous.
2) There is empirical evidence indicating that size is viewed as a surrogate for safety in the market for large CDs.
3) Portfolio managers who purchase bank CDs and who view size as a proxy for risk[20] could improve their return and reduce their risk (i.e., buy bank CDs with a higher return from banks with better financial ratios).

With regard to the first finding, Table 2 shows the 15 largest U.S. banks (ranked by asset size), their rank in four semi-annual analyses beginning with IV/76 data and the number of ratios which were significantly different from the sample means at the 95% confidence level (one-tail test). Note that the average rank of the largest 15 institutions over the four analyses was 56.20. In none of the four analyses was the average rank below the expected rank of 50.00. In the December 31, 1977 and June 30, 1978 analyses, 8 of the 135 observed ratios were significantly different from the sample means (95% confidence level; one-tail test). The expected number was 6.75. The June 30, 1977 and December 31, 1976 data showed 10 and 13 ratios respectively with significant deviations. And overall, 39 ratios out of 540 showed significant deviations from their respective means, well above the expected number of 27.

TABLE 2

**Rank by Asset Size and Ratio Analysis of the 15 Largest U.S. Banks in Four Semi-Annual Periods**

| Asset Rank | Institution | Rank | | | | |
|---|---|---|---|---|---|---|
| | | II/78 | IV/77 | II/77 | IV/76 | Avg./Sum |
| 1 | Bank of America | 36<br>(0) | 24<br>(0) | 34<br>(0) | 21<br>(0) | 28.75<br>(0) |
| 2 | Citibank | 13<br>(1) | 23<br>(1) | 18<br>(1) | 20<br>(1) | 18.50<br>(4) |
| 3 | Chase Manhattan | 63<br>(0) | 86<br>(0) | 69<br>(1) | 87<br>(1) | 76.25<br>(2) |
| 4 | Manufacturers Hanover | 28<br>(0) | 37<br>(0) | 36<br>(0) | 43<br>(0) | 36.00<br>(0) |
| 5 | Morgan Guaranty | 15<br>(0) | 18<br>(0) | 19<br>(0) | 25<br>(0) | 19.25<br>(0) |
| 6 | Chemical Bank | 95<br>(0) | 91<br>(0) | 84<br>(0) | 91<br>(0) | 90.25<br>(0) |
| 7 | Continental Ill. | 49<br>(2) | 33<br>(2) | 24<br>(2) | 24<br>(2) | 32.50<br>(8) |
| 8 | Security Pacific | 45<br>(0) | 58<br>(0) | 48<br>(0) | 50<br>(0) | 50.25<br>(0) |
| 9 | Bankers Trust | 83<br>(1) | 94<br>(2) | 98<br>(1) | 99<br>(2) | 93.50<br>(6) |
| 10 | Wells Fargo | 59<br>(0) | 53<br>(0) | 60<br>(0) | 64<br>(0) | 59.00<br>(0) |
| 11 | FNB Chicago | 54<br>(1) | 49<br>(1) | 52<br>(2) | 58<br>(3) | 53.25<br>(7) |
| 12 | Crocker Bank | 84<br>(0) | 82<br>(0) | 75<br>(0) | 71<br>(0) | 78.00<br>(0) |
| 13 | United California | 76<br>(0) | 98<br>(0) | 92<br>(1) | 89<br>(0) | 88.75<br>(1) |
| 14 | Marine Midland | 96<br>(3) | 95<br>(2) | 77<br>(1) | 85<br>(3) | 88.25<br>(9) |
| 15 | Mellon Bank | 23<br>(0) | 27<br>(0) | 39<br>(1) | 33<br>(1) | 30.50<br>(2) |
| | Average<br>Sum | 54.6<br>(8) | 57.9<br>(8) | 55.0<br>(10) | 57.3<br>(13) | 56.20<br>(39) |

The conclusion from this is that the ratios of the 15 largest banks either come from a different population than those of the 16th through 100th size rank, or the largest 15 are financially weaker than their sisters.

Table 3 shows the average CD ratios for banks active in the primary CD market on 6 days between December 20, 1978 and January 2, 1979. The 90 and 180 day CD rates were chosen because of their popularity among portfolio managers. A correlation analysis shows little relationship between the rank assigned by the ratio tool and the rate offered, but the same test showed a much stronger relationship between bank size and rate (Table 4). For example, Indiana National, FNB Boston, and Bank of New York, which rank high in the ratio analysis paid higher rates for large CDs than did Chase, Crocker or Marine Midland, all of which fare poorly in the ratio analysis. Thus, if these financial ratios are viewed as a measure of risk, a portfolio manager concerned with large CDs could lower the portfolio risk and, at the same time, increase return by acquiring CDs at the smaller banks which rank high in the ratio analysis. This may be evidence that the market for large CDs may not be efficient in the sense of "fully reflecting" available information.

TABLE 3

**Rank by Ratio Analysis (6/30/78, Asset Rank, and Average CD Rates for Banks in the Primary CD Market (12/20/78 to 1/2/79)**

| Rank | | | Average CD Rates | |
|---|---|---|---|---|
| Ratio | Asset | Institution | 90 day | 180 day |
| 13 | 2 | Citibank | 10.60% | 10.95% |
| 21 | 68 | Indiana National Bank | 10.85% | 11.53% |
| 25 | 20 | FNB Boston | 10.50% | 11.32% |
| 28 | 4 | Manufacturers Hanover | 10.48% | 10.95% |
| 37 | 74 | Lloyds of California | 10.50% | 11.25% |
| 40 | 21 | Bank of New York | 10.75% | 11.39% |
| 49 | 7 | Continental Illinois | 10.60% | 11.33% |
| 54 | 11 | FNB Chicago | 10.70% | 11.33% |
| 63 | 3 | Chase Manhattan | 10.40% | 11.08% |
| 74 | 46 | Bank of California | 10.60% | 11.13% |
| 76 | 13 | United California Bank | 10.67% | 11.39% |
| 84 | 12 | Crocker Bank | 10.38% | 11.00% |
| 90 | 99 | U.S. Trust N.Y. | 10.73% | 11.25% |
| 96 | 14 | Marine Midland | 10.67% | 11.10% |

### TABLE 4

### Correlation Results: Return vs. Risk and Size

| | Average CD Rates | |
|---|---|---|
| | 90 day | 180 day |
| Ratio Rank | -.038 | -.123 |
| Asset Size | .400 | .424 |

### Preliminary Conclusions

The test of any tool is whether it accomplishes its stated goals. Ideally, a comparison of the results of these four analyses with the regulatory agencies' "problem bank" lists would indicate a degree of success or failure for the tool. In the absence of those lists, however, other observations can be made. It is no secret that First Pennsylvania Bank,[21] Citizens and Southern National Bank, and Marine Midland Bank had financial problems in the late 1970s. Table 5 shows the overall rank of each of these in the four semi-annual periods of analyses and the number of significantly weak ratios.

### TABLE 5

### Rank and Number of Weak Ratios for Selected Banks in Four Semi-Annual Periods

| Institution | IV/76 Rank | Weak Ratios | II/77 Rank | Weak Ratios | IV/77 Rank | Weak Ratios | II/78 Rank | Weak Ratios |
|---|---|---|---|---|---|---|---|---|
| First Pennsylvania Bank | 100 | 5 | 100 | 4 | 100 | 5 | 100 | 3 |
| Citizens and Southern National Bank | 80 | 1 | 85 | 1 | 99 | 5 | 92 | 3 |
| Marine Midland Bank | 85 | 4 | 77 | 1 | 95 | 2 | 96 | 3 |

In January, 1979, Michigan National Bank was criticized by the SEC for accounting practices which allocated an insufficient amount of funds to loan loss reserves and thus, too much to profit. The ratio analyses showed Michigan National's valuation reserve/loan ratio as significantly different from the mean of the 100 sample ratios in all four analyses as shown in Table 6.

### TABLE 6

### Michigan National Bank's Valuation Reserve/Loan Ratio, T-Score, and Rank in Four Semi-annual Periods

| Period Ending: | Ratio | Mean* | T-Score | Rank* |
|---|---|---|---|---|
| December 31, 1976 | .45% | 1.30% | -2.10 | 100 |
| June 30, 1977 | .41% | 1.32% | -2.17 | 99 |
| December 31, 1977 | .44% | 1.24% | -2.12 | 99 |
| June 30, 1978 | .55% | 1.25% | -1.73 | 99 |

*The mean and rank are based on 100 banks

### Proposal

Preliminary indications are that the method described above is easy to use and is useful in identifying problem banks. More current data are needed, and an attempt to find a more homogeneous group than the largest 100 should be undertaken. Most important, a deeper look at the ability of the tool to identify problem banks is necessary.

## APPENDIX

DATA: II/1978

BASED ON A SAMPLE OF 100 BANKS

| | Institution | Liquidity | | Equity Strength | | Profitability | | | Loan Quality | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Loan/ Deposit | Pur Fnd /Asset | Equity /Asset | Debt/ Equity | Retn on Assets | Retn on Capital | Profit Margin | Chg Off /Loans | Val Res /Loans | Deposit (Bil $) | City | State |
| 1 | National City Bank | 56.60%<br>(-1.32)<br>9 | 29.07%<br>( 0.37)<br>72 | 8.53%<br>( 1.57)<br>7 | 1.81%<br>(-1.12)<br>7 | 1.43%<br>( 2.57)<br>2 | 16.42%<br>( 2.24)<br>2 | 43.09%<br>( 2.03)<br>3 | 0.13%<br>(-0.86)<br>12 | 2.30%<br>( 2.61)<br>3 | $ 1.67<br>51 | Cleveland | OH |
| 2 | National Bank of Detroit | 59.32%<br>(-1.08)<br>13 | 9.86%<br>( -1.46)<br>6 | 7.83%<br>( 1.06)<br>14 | 0.00%<br>(-1.18)<br>1 | 0.82%<br>( 0.25)<br>35 | 10.45%<br>( 0.38)<br>37 | 27.36%<br>( 0.30)<br>36 | 0.17%<br>(-0.77)<br>19 | 1.54%<br>( 0.72)<br>18 | $ 5.68<br>15 | Detroit | MI |
| 3 | Riggs NB of Washington DC | 58.89%<br>(-1.12)<br>12 | 6.08%<br>(-1.82)<br>3 | 7.59%<br>( 0.88)<br>16 | 7.21%<br>(-0.93)<br>16 | 0.90%<br>( 0.57)<br>25 | 11.10%<br>( 0.58)<br>28 | 36.03%<br>( 1.25)<br>8 | 0.43%<br>(-0.19)<br>58 | 1.54%<br>( 0.72)<br>19 | $ 1.55<br>60 | Washington | DC |
| 4 | Detroit Bank and Trust Co. | 59.81%<br>(-1.04)<br>14 | 21.30%<br>( 0.37)<br>40 | 6.29%<br>(-0.08)<br>46 | 0.32%<br>(-1.17)<br>5 | 1.08%<br>( 1.26)<br>14 | 17.19%<br>( 2.49)<br>1 | 35.68%<br>( 1.21)<br>10 | 0.19%<br>(-0.73)<br>21 | 1.23%<br>(-0.04)<br>44 | $ 2.94<br>27 | Detroit | MI |
| 5 | Trust Company Bank | 64.60%<br>(-0.62)<br>24 | 10.28%<br>(-1.42)<br>7 | 8.00%<br>( 1.18)<br>10 | 10.95%<br>(-0.80)<br>23 | 1.26%<br>( 1.92)<br>4 | 14.15%<br>( 1.54)<br>7 | 38.40%<br>( 1.51)<br>5 | 0.59%<br>( 0.18)<br>71 | 1.23%<br>(-0.06)<br>46 | $ 1.01<br>98 | Atlanta | GA |
| 6 | American Nat. Bank and Trust | 62.29%<br>(-0.82)<br>20 | 15.48%<br>(-0.93)<br>20 | 7.33%<br>( 0.69)<br>18 | 5.19%<br>(-1.00)<br>13 | 0.97%<br>( 0.84)<br>20 | 12 63%<br>( 1.06)<br>16 | 27.26%<br>( 0.29)<br>37 | 0.28%<br>(-0.52)<br>34 | 1.51%<br>( 0.64)<br>23 | $ 1.18<br>88 | Chicago | IL |

Notes: Each ratio is shown as a percentage; beneath it in parentheses is the t-score for that ratio; below that is the rank of that particular ratio (in this case out of 100). The overall rank was determined by summing the ranks of the nine ratios; the lowest sum is accorded the best rank.

***Footnotes:***

[1] Cargill, Thomas and Gillian Garcia, "Deregulation and Monetary Control: Historical Perspective and Impact of the 1980 Act," Paper No. 80-17, Bureau of Business and Economic Research, University of Nevada, Reno, Nevada, p. 26.

[2] Leff, Gary, "How Secret Should Problem Bank Lists Be?" *The Bankers Magazine*, September-October, 1978, p. 39.

[3] Imagine the FDA withholding information on toxic shock syndrome and the "Rely" brand tampon, or the FAA not releasing information on the DC 10's wing problems.

[4] Cargill, p. 9

[5] Cargill, pp. 5-6.

[6] Public Law 96-221, March 31, 1980. Quotation is from the legislation.

[7] Cargill, pp. 25-26.

[8] Empirical evidence of this is presented later.

[9] The perception of risk in banking as being unrelated to financial factors is indicated by Richard Pettway's conclusion that the failures of U.S. National Bank of San Diego and Franklin National Bank had no systematic influence on perceived risk in banking [8]. The conclusion reached by Fraser and McCormack [3] that Franklin's failure did influence the risk premium of banks seeking funds in the bond markets is not inconsistent with Pettway who did find some unsystematic (i.e., diversificable) risk increase after the Franklin failure.

[10] For a brief review see Scott and Rose [10].

[11] Scott, William L. and Peter S. Rose, "The Bank Failure Problem Reexamined," *MSU Business Topics*, Winter, 1977, p. 9.

[12] *Ibid.*, p. 8.

[13] Rose, Peter S. and William L. Scott, "Risk in Commercial Banking: Evidence from Postwar Failures," *Southern Economic Journal*, July, 1978, p. 91.

[14] Barone, Robert N. and Harold S. Sekiguchi, "An Analysis of Key Factors Influencing Inefficiencies in the Primary Market for Large CDs," *Proceedings and Abstracts*, American Institute Decision Sciences, Western Regional Conference, Reno, Nevada, March 22-23, 1979, p. 260.

[15] While the remainder of this paper discusses the specific ratios chosen and forms some preliminary conclusions, the author believes that the methodology employed is of more significance.

[16] Cargill, p. 33.

[17] *Ibid.*, p. 35.

[18] See the work of William Stoever of Rutgers on Indonesia and Iran. Specifically, see "International Bank Behavior Under the Threat of LDC Government Default: Lessons from Iran," Paper presented at The Academy of International Business Conference, New Orleans, October, 1980.

[19] Depending on the ratio, either the left or right tail is tested. For some ratios, e.g., profitability ratios, a left tail test for low profitability is performed; for others, e.g., loan/deposit ratio, a right tail test for low liquidity is used.

Those ratios which appear to be significantly better than the mean (i.e., stronger) may indicate that the institution is missing profitable opportunities (e.g., banks with no leverage). This methodology, however, attempts to assess risk alone, not the risk return tradeoff. Therefore, ratios showing statistically significant deviations from the means on the tail indicating strength are given the highest rankings; those indicating weakness result in low rankings.

[20] At many small depository institutions, especially Savings and Loan Associations, the job of portfolio manager is part-time. In many such cases, policy restricts those in charge to purchasing time deposits only from the largest U.S. banks in effect substituting size as a proxy for risk.

[21] An article in the March 20, 1980 issue of *The Wall Street Journal* entitled "First Pennsylvania is Finding it Harder to Fight Rumors, Erosion of Confidence" indicated that "First Pennsylvania is about to be 'rescued' in some way by the Federal Reserve System."

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# Restricting Auto Imports

*by Robert Carbaugh**

Faced with the possibility of mandatory restrictions being placed on their auto exports to the United States, in May, 1981, the Japanese government "voluntarily" decided to hold down shipments to the United States. Japan apparently felt that by voluntarily limiting its auto exports, any Congressional momentum for import quotas would be derailed, or barring that, the President would be persuaded to veto any import quotas Congress might pass.

This paper investigates the factors leading up to the voluntary export restraints on autos adopted by Japan. The paper looks at the various trade barriers that were viewed as possible sources of protection for American auto producers and their projected costs and benefits for the U.S. economy. Also considered are the economic effects of voluntary export restraints placed on autos and their role for preserving shares in the U.S. market for domestic auto companies.

## U.S. AUTO INDUSTRY: CURRENT TRENDS AND PROBLEMS

Historically the U.S. automotive industry has been prosperous. U.S. auto producers, most notably General Motors, have often enjoyed profits above the average for all manufacturers. But recently the U.S. auto producers have faced sharp declines in output, employment and earnings. By 1980 domestic auto sales were more than 40 percent below the level of 1978 while autoworker employment fell to a level of about 804,000, down from the 1975-1979 average of 922,000.

An increasing penetration of the domestic market by foreign producers paralleled the declining sales of the U.S. auto industry. As Table 1 indicates, imports as a share of the U.S. new car market dramatically increased to 26.3 percent in 1980. Most notably, it was the Japanese auto companies (Toyota, Datsun, Honda) which together accounted for 18.1 percent of U.S. car sales in 1980. Several factors appear to underlie much of the American auto industry's problems, as discussed below.

Import market
share data in
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TABLE 1

**Imports as a Share of the U.S. Automobile Market**

| Year | Import Share of New Car Retail Sales |
|---|---|
| 1967 | 9.2% |
| 1969 | 11.7 |
| 1971 | 15.3 |
| 1973 | 15.4 |
| 1975 | 18.4 |
| 1977 | 18.6 |
| 1979 | 21.7 |
| 1980 | 26.3 |
| 1981 (January) | 27.0 |

Source: *Ward's Automotive Reports* and the *Wall Street Journal*

Experience suggests that surges of auto imports into the United States have often accompanied sharply rising gasoline prices. The first major round of OPEC price increases in 1973-1974, an amount totalling 400 percent, triggered efforts to purchase cars with higher fuel economy. The result was an increase in small-car import sales to 18 percent of the market by 1975, up from the 15 percent level of 1973. However, under the U.S government's policy of holding the domestic oil price below world levels, the "real" price of gasoline decreased between 1975 and 1979. The American consumer's reaction to falling real prices was predictable—a move toward larger cars produced by domestic firms. But with the collapse of Iran came a doubling of gasoline prices in 1979-1980. The result was a surge in small-car imports to over 26 percent of the market in 1980. From 1979 to 1980 the mix of cars sold in the United States changed from 23 percent large, 33 percent midsize, and 44 percent small cars to 14 percent large, 32 percent midsize, and 55 percent small cars.[1]

The competitive position of the American auto industry has also been adversely affected by the production cost disadvantages that it faces compared to Japanese automakers. Current estimates suggest that the Japanese have a cost advantage between $1000 and $1500 per car sold in the United States.[2] This differential partially reflects differences in wage levels. As of 1980 the average hourly compensation of U.S. auto workers was approximately $15.00 per hour, roughly double that of Japan. Moreover, the employee compensation disadvantage of the United States has increased

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slightly relative to Japan over the 1975-1980 period. Another factor behind the Japanese cost advantage is that Japanese automakers require fewer labor hours to build a vehicle of equivalent size than do U.S. firms.[3] Partially offsetting these cost disadvantages are the Japanese freight costs plus a duty of 2.9 percent on passenger cars shipped to the United States. Nevertheless, the overall landed-cost advantage of the Japanese amounts to roughly 20 percent of the cost of a typical small car sold in the United States.

Observers furthermore maintain that the recent downturn of American automaker sales has been influenced by public perceptions that foreign cars are of superior quality. Surveys of American buyers have pointed out that Japanese autos have won out over American autos in terms of consumer perceptions of mileage, value for money, maintenance cost, and quality of workmanship.[4] What's more, the U.S. recession of 1980 led to falling personal incomes which resulted in many Americans postponing new car purchases until their incomes and jobs appeared more stable.

With the rise in foreign competition in recent years, the U.S. auto market has become increasingly integrated into the world auto market. When the Iranian oil shortage accelerated the shift to small, fuel efficient cars, U.S. auto firms—whose model mix emphasized larger autos with higher profit margins[5]—were not as well equipped as foreign firms to meet the changing demand conditions. The lack of American capacity to produce small cars apparently was a major factor behind the surge in foreign imports in 1980. Since the auto manufacturing process typically requires a time lag of at least five years for the design and introduction of a new car to the market, Detroit producers demanded protectionism which would buy time for the transition to a model mix emphasizing small cars.

## PRESSURE FOR IMPORT RESTRICTIONS

As the surge in Japanese auto sales to the United States gained momentum in the early months of 1980, the United Autos Workers (UAW) labor union filed a petition with the U.S. International Trade Commission (ITC) requesting the government to raise duties on cars from the existing 2.9 percent to 20 percent. In addition, the UAW and Ford Motor Company filed proposals with the ITC calling for a quota of 1.7 million imported autos, as compared to imports of 2.3 million autos in 1979. Both the proposed tariff and quota were to last for a period of five years.

Under the *escape clause* provisions of the Trade Act of 1974, temporary restrictions on imports (up to five years) can be levied to shield an industry from surging imports. For the ITC to make recommendations on Presidential action for restrictions, the petitioning industry must prove that imports are the "substantial cause of serious injury." This means that petitioners must show that there has occurred a rise in imports, that the industry has been injured, and that the rise in imports was a cause of injury no less than any other cause. At issue was the UAW-Ford contention that surging auto imports were occurring in such amounts as to be a "substantial cause" or "threat" of "serious injury" to the domestic industry. During the first half of 1980, foreign automakers shipped 1.2 million passenger cars to the United States, compared to shipments of 990,000 cars during the like 1979 period.

On a three-to-two vote, in November, 1980 the ITC trade panel ruled that imports of passenger cars were not the substantial cause of the U.S. auto industry's current problems and that relief under the escape clause is not justified.[6] In rejecting the petition, the ITC acknowledged that factors other than imports were more serious problems for domestic industry. These included the doubling of gasoline prices in 1979, shifting buyer preferences toward smaller, fuel-efficient autos, and the general decline in demand for autos resulting from the 1980 recession. The severe setback that the ITC dealt the domestic auto industry was immediately followed by pledges of the UAW and Ford Motor Company to take their case to incoming President Reagan and the Congress. But it was realized that the President's apparent preference for free trade would make it difficult for the auto industry to win restrictions on imports that were imposed unilaterally by the U.S. government.

## THE COSTS OF AUTO PROTECTION

Although Ford and the UAW maintained that protecting the auto industry against foreign competition would avoid lost domestic output via unemployed resources, free trade proponents contend that such benefits are not costless. Figure 1 presents the welfare effects of trade restrictions imposed on imported autos which are assumed to be homogeneous with domestically produced autos.

In Figure 1, $Dd_0$ and $Sd_0$ represent the domestic demand and supply schedules of autos for the United States. $S_0$ denotes the auto supply schedule of Japan, assumed to be the world's low-cost producer. Let the Japanese unit cost and price of autos be constant at $P_0$.[7] Under free trade, assuming no transportation costs, imports totaling $Q_1Q_7$ make up the difference between the domestic supply ($Q_1$) and domestic demand ($Q_7$) at the equilibrium price of $P_0$.

Should the United States levy a tariff on auto imports equal to $P_0P_2$, there would be a discrepancy between the now higher U.S. price of $P_2$ and the given Japanese price of $P_0$. The higher U.S. price stimulates home producers to increase output to $Q_3$, encourages the public to reduce consumption to $Q_5$, and thus reduce imports to $Q_3Q_5$. The rise in the price also triggers a reduction in consumer surplus. Of this amount, areas $A + H$ represent a redistribution of income to domestic companies as producer surplus, while areas $D + E + J + K$ are redistributed to the government as customs revenue. Areas $B + C + I$ denote the deadweight welfare loss due to production inefficiency, in which the tariff induces a change in the location of production from a low-cost source to a high-cost source within the United States. Areas $F + G + L$ depict the deadweight consumption loss resulting from buyers being prevented from purchasing autos at the free trade price.

Again starting from the position of free-trade equilibrium, suppose the United States imposed a quota of $Q_3Q_5$

on auto imports. By reducing the available supplies, the quota would force auto prices up by $P_0P_2$. The resulting redistribution of income to domestic producers as well as the deadweight production and consumption losses would be identical to the tariff case discussed above.[8] Under the quota there is no tariff revenue. Yet the lost consumer surplus, areas $D+E+J+K$, will be acquired by someone. Whether this revenue is collected by domestic importers or foreign exporters depends on the competitive conditions existing in the market, as will be discussed below.[9]

In October 1980, the Federal Trade Commission (FTC) made available its estimates of the welfare effects of the UAW-Ford tariff and quota proposals on the small-car market (sub-compacts and compacts) for the year 1980.[10] The results are summarized in Table 2.

TABLE 2

**Effects of UAW-Ford Trade Restraint Proposals: Small-Car Market**

| Effect | 20 Percent Duty | Quota of 1.7 Million Imported Autos |
|---|---|---|
| Auto Price Increase | $1,162 | $527 |
| Import Sale Decrease | 1,540,000 units | 700,000 units |
| Domestic Sales Increase | 570,000 units | 260,000 units |
| Producer Profit Increase | $4.34 billion | $1.89 billion |
| Domestic Employment Increase | 47,200 jobs | 21,700 jobs |
| Consumer Expenditure Increase | $5.64 billion | $2.85 billion |
| Cost to Consumer per Job | $118,126 | $126,641 |

Source: Michael Lynch, and others, *Certain Motor Vehicles and Certain Chassis and Bodies Therefor* (Federal Trade Commission, October 1980).

The FTC estimated that the proposed tariff would lead to increases in both import and domestic prices of $1,162 while there would occur a $527 price increase under the quota. The price rise would trigger a 0.7 million unit reduction in import sales under the quota and a 1.54 million unit decrease in the case of the tariff. *Although some consumers would be expected to substitute domestic models for imports, domestic car sales were not expected to rise as much as import sales would fall.* Domestic sales were projected to rise by 0.57 million units under the tariff and 0.26 million units under the quota. The higher auto sales would lead to an increase in domestic producer profits of $4.34 billion and an additional 47,200 jobs in the case of the tariff. For the quota, profits would rise by $1.89 billion while autoworker employment would expand by 21,700 jobs.

Although the UAW-Ford proposals might yield gains for domestic producers and workers, the FTC estimates showed that the costs to the consumer would be sizable. Not only would the proposed restrictions limit the choice of models for the buying public, but the resulting price increases would induce rising consumer expenditures of $5.64 billion in the event of the tariff and $2.85 billion if a quota were imposed.[11] The increases in consumer expenditures would outweigh the increases in profit benefits to producers by at least $1 billion under each proposal. What's more, the FTC estimated that American auto companies would reinvest in production modernization and downsizing only a fraction of the additional dollars spent by consumers. The largest share of the increased producer profits would accrue to General Motors, the U.S. auto company least in need of capital.

Concerning the costs of protecting American workers from foreign competition, the FTC's estimated annual cost to the American consumer per auto worker reemployed ranged from $118,126 under the tariff to $126,641 under the quota. However, any meaningful conclusions to be gathered from these figures would require comparison with the social costs of unemployment, such as average weekly compensation from state unemployment compensation and Federal trade adjustment assistance allowances.[12]

The FTC's conclusion regarding the UAW-Ford proposals was that there may be more efficient methods of providing additional capital and maintaining employment in the auto industry than quotas and tariffs. One method would involve generalizing the Chrysler loan guarantee program to the entire industry. Starting at the point of free trade equilibrium in Figure 1, a unit subsidy of $P_0P_2$ would result in a rightward shift in the domestic supply curve from $Sd_0$ to $Sd_1$, with domestic output rising from $Q_1$ to $Q_3$. There would occur only a production deadweight loss equal to areas $B+C+I$. Because efficiency in buyer decisions is not disturbed, the deadweight loss to the nation would be less than the deadweight loss provided by a quota or tariff that leads to increases in domestic production of an equivalent amount.

## VOLUNTARY EXPORT RESTRAINT

When the ITC turned down the requests by the UAW and Ford for additional import restrictions, their case was appealed to the President and Congress. By the Spring of 1981 protectionist momentum was gaining, and legislation was introduced calling for import quotas on autos. But the Reagan Administration clung to its free trade rhetoric, indicating that it would prefer a voluntary agreement to be worked out with Japan rather than legislated quotas. Pressure that the Administration was reported to have exerted on Japan apparently was a prime factor behind the Japanese government's decision to "voluntarily" reduce auto shipments to the United States.

The restraint program called for self-imposed export quotas applied to Japanese auto sales to the United States for two years, beginning April 1, 1981. First year shipments are to be held to 1.68 million units, 7.7 percent below the 1.82 million units exported in 1980. The export quota is to be extended for a second year, with car shipments being held to the same number plus 16.5 percent of the increase in domestic U.S. car sales recorded in 1981. The Japanese government also showed a willingness to extend the restraint for a third year, subject to U.S. market conditions at that time.

Referring to Figure 1, suppose that Japan accepts an export quota of $Q_3Q_5$ units. The impact on U.S. auto production and sales will be equivalent to the tariff and import quota cases previously discussed. However, the distribution of the export quota's revenue, denoted by areas D+E+J+K is distinct from the other protectionist devices.[13]

Under the tariff of $P_0P_2$, areas D +E+J+K would be collected by the U.S. government as customs revenue. As for the import quota of $Q_3Q_5$, the contrived scarcity of autos in the United States induces a rise in price. This results in profits totalling areas D+E+J+K that will be shared by U.S. importers and Japanese exporters, each of which attempts to maximize its share of the total. If the concentration of market power lies with the importers, they can buy autos at a price of $P_0$ and resell them at price $P_2$, thereby capturing the quota revenue. Conversely, should the exporters dominate, they will be able to raise their price to $P_2$ and thus obtain the quota revenue.

Under the voluntary export quota of $Q_3Q_5$, the Japanese exporters, in compliance with their government, self regulate their shipments to the United States. This supply-side restriction results in Japanese firms behaving like an export cartel, enabling them to get the quota revenue. For this reason, it is not surprising that exporters might prefer to negotiate a voluntary restraint pact in lieu of facing other protectionist measures levied by the importing countries. As for the impact on the U.S. economy, this expropriation of revenue represents an inefficiency loss in addition to the deadweight losses of production and consumption. Available evidence of the voluntary export agreements in textiles and steel suggests that the quota revenue accrues to the exporter, except where the importing country increases the tariff on imported goods to recapture a share of the profit.[14]

Another characteristic of a voluntary export agreement is that it typically pertains to the most important exporting country or countries. This is in contrast to the tariff and import quota, whose coverage generally applies to imports from all sources. When voluntary limits are imposed on shipments of the chief producer, the exports of the nonrestrained supplies may be stimulated. This may be due to the desire to increase profits by making up part of the cutback of the restrained country. Nonrestrained suppliers may also desire to achieve the maximum level of shipments against which to base export quotas they fear may be imposed on them in the future.

Referring to Figure 1, an import quota imposed on autos would not permit additional shipments to the United States. However, a voluntary export quota of $Q_2Q_4$ (equal to $Q_3Q_5$) on Japanese shipments could result in nonrestrained exporters supplying autos to the United States. Given a constant average cost of $P_1$, suppose the nonrestrained suppliers ship $Q_4Q_6$ autos to the United States. Auto prices in the United States would thus rise to $P_1$. The resulting deadweight losses of production and consumption inefficiency would total areas B+G, less than the deadweight losses that would occur under the import quota. Areas C+D represent the profits captured by Japanese exporters on shipments to the United States. Areas E+F depict the inefficiency losses due to the diversion of exports from a low-cost source (Japan) under free trade to a higher cost source (non-restrained supplier).

When increases in the nonrestrained supply offset part of the cutback in shipments that occur under the export quota, the overall inefficiency loss for the importing country (deadweight losses plus revenue expropriated by foreign producers) is less than that which would have occurred had there been zero nonrestrained exports. In the above example, this amount equals areas I+J+K+L.

## CONCLUSIONS

The purpose of the voluntary export agreement reached with Japan is to allow the U.S. auto industry temporary relief from foreign competition. The pact presumably would result in an increase in domestic auto worker employment, while funds would be generated to finance the industry's revitalization. However, recent estimates suggest that the above benefits will be minor, while the agreement's burden on the American consumer will be substantial. What's more, the history of voluntary agreements reached in other industries—steel, color television, apparel, and footwear—does not provide much optimism for the chances of a protected industry fully regaining its competitiveness.

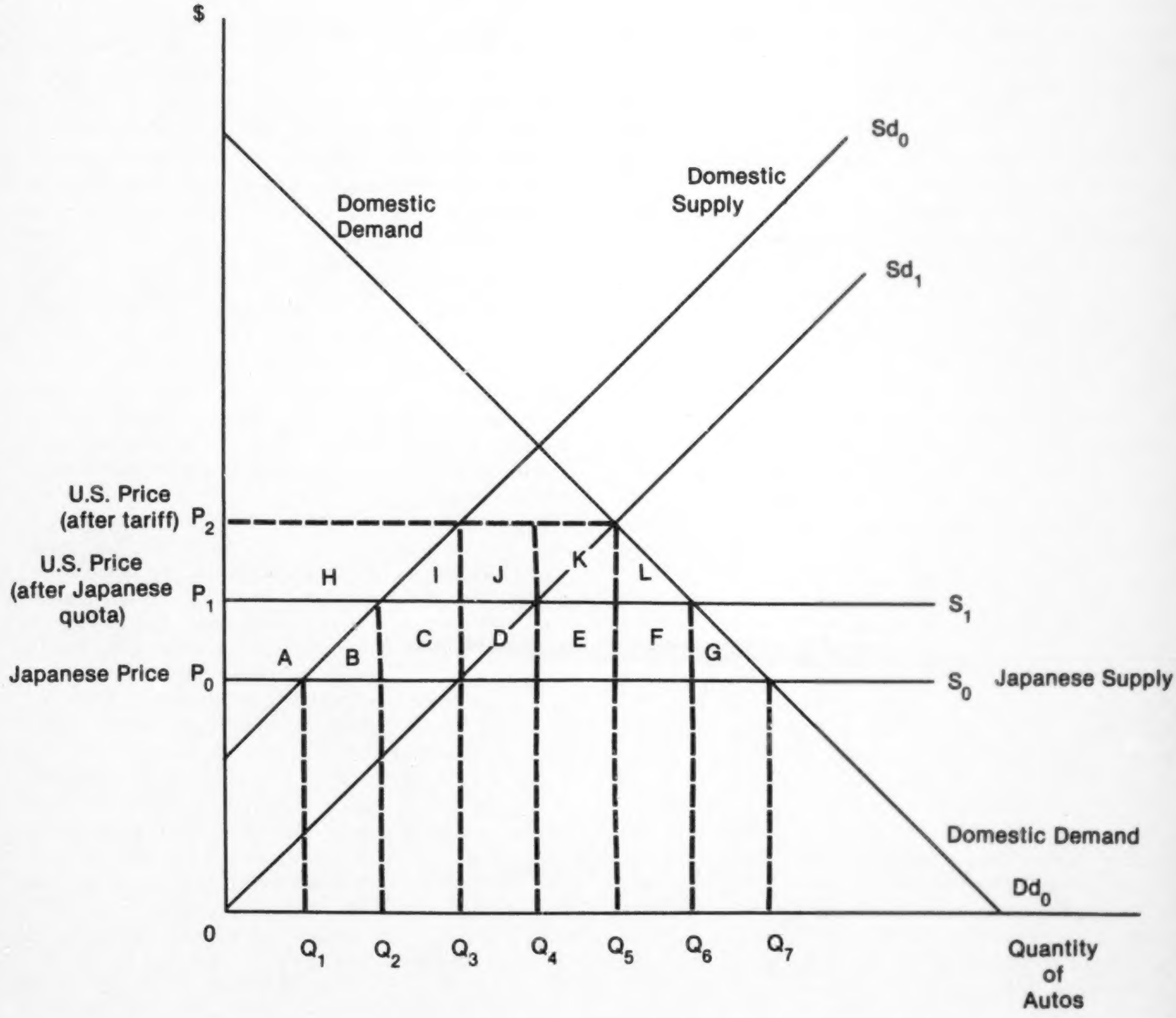
It has been estimated that a quota of 1.7 million autos would generate funds of about $800 million per year for domestic producers. Over a five year period this would amount to $4.0 billion, less than 8 percent of the projected new investment needs of the industry.[15] It is also expected that the Japanese export curbs will not help sell many more American cars. Domestic producers are likely to capture only 45,000 of the 300,000 shipments lost by Japan during the first year of the restraint.[16] Empirical studies point out that for each 100,000 autos permanently lost to imports, some 8,000 to 9,000 workers in auto manufacturing will lose their jobs.[17] On this basis, the agreement's 45,000 increase in U.S. auto sales would reduce auto worker unemployment by only 5,000, compared to 250,000 auto workers facing indefinite layoffs in 1980. As a result, the agreement will likely have only negligible effects on U.S. auto employment.

The voluntary restriction is expected to result in Japanese companies shifting their product mix to higher-priced, higher-profit models. In steel, import restraints have encouraged foreign producers to concentrate on specialty steel products as a way of maintaining strong earnings. As for autos, the export curbs may result in less expensive models disappearing from the market while extra-cost equipment is loaded on the cars already in inventory. The choices of American consumers would thus be limited, while the average landed price of imports would increase.

The combination of the enriching of the product mix of imported cars and the contrived scarcity of autos stemming from the export curb will give U.S. producers more leeway

FIGURE 1

**Welfare Effects of Protection**



in raising prices. One estimate puts the average price of new cars sold in the United States to be three percent above what would have occurred in the absence of the voluntary agreement. American consumers, whose buying habits have become increasingly sensitive to price changes, are expected to purchase some 250,000 fewer autos in 1982 and also 325,000 fewer in 1983.[18]

The recent surge in small car imports is not surprising when considering the elasticity of auto demand with respect to gasoline prices. Estimates have put the median elasticity for small cars at + 1.38, -0.2 for intermediate cars, and -1.13 for large cars.[19] With real gasoline prices rising by some 50 percent between 1978 and 1980, the result was an increase in the small car share of the American market, while the shares of the intermediate and large cars decreased. However, the current oil glut has led to softness of gasoline prices. Should the rate of increase in gasoline prices slow, leading to a decline in the real price of gasoline, American consumers would be expected to deemphasize small car purchases. This would provide U.S. auto firms more breathing room for retooling as intermediate and large car sales recover. On this basis, protecting the American auto firms from imports of Japanese producers would not be necessary.

Voluntary restraints are also questioned as to their effectiveness in curbing exports. Although curbs are generally placed on the main contributors to import surges, nonrestrained suppliers can fill the gap in demand created by the export limit. In 1977 the United States negotiated a voluntary export agreement with Korea and Taiwan on nonrubber footwear, in response to a surge in imports. One year later, the slack was being filled by shipments from Brazil, Italy, and Hong Kong. And since the pact failed to cover rubber footwear, Taiwanese and Korean producers substituted rubber for other inputs, thus gaining access to the U.S. market. As for autos, Renault and Fiat may be able to offset some of the small-car shortage. By placing curbs on "cars," conceivably the pact could result in disassembled auto components being shipped to the United States. Although this is not likely to occur, for twenty years Japanese circumvented U.S. tariffs on trucks by shipping them to the United States in pieces, subject to reassembly on the docks.

A major problem confronting the Administration is that those American industries benefitting from voluntary restraints applied to foreign competition have not been able to regain full competitiveness. The voluntary curbs in steel were replaced by the trigger price mechanism, while the apparel and textile industries still need props after twenty years of protectionism. The color television and footwear industries face tough times in spite of the restraints being imposed on Asian competitors over the last four years. Concerning the auto industry, it is questionable whether a program of voluntary restraint will provide the motivation on the part of management and labor, as well as financial resources, that are needed for the industry's revitalization. The import restraints can hardly be considered a panacea for the problems confronting the declining American auto industry.

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***Footnotes:***

[1] *Automobile Monthly Miles per Gallon and Market Share Newsletter,* September 1980, Oak Ridge National Laboratory, Energy Division.

[2] *The U.S. Automobile Industry, 1980,* U.S. Department of Transportation, Washington, D.C., p. 40.

[3] *The U.S. Automobile Industry, 1980,* p. 43.

[4] Rogers National Research, *Buyer Profiles,* 1977, 1978, 1979. See also *Automotive News,* September 15, 1980, p. 53.

[5] 1979 figures put the variable margin (revenue minus direct labor and material costs) on a full size car at $2,000 to $2,500. But the shift in the U.S. demand towards small cars is expected to result in U.S. auto producers seeking to establish higher margins on smaller cars. See *The U.S. Automobile Industry, 1980,* p. 69.

[6] The ITC also unanimously rejected a UAW-Ford request for restrictions on imports of light trucks.

[7] Figure 1 is based on the assumption that the elasticity of supply of imports is infinite, while increasing cost conditions prevail in the domestic market. The United States can thus import as many autos as it desires without affecting the import price. While this assumption does not reflect the reality of the U.S. auto market, it corresponds to the assumptions underlying the FTC's empirical estimates of the welfare costs of auto restrictions discussed in this section.

[8] See Jagdish Bhagwati, "On the Equivalence of Tariffs and Quotas," in Robert E. Baldwin and others, *Trade, Growth, and the Balance of Payments* (Rand McNally: Chicago, Illinois, 1965) pp. 53-67.

[9] The quota revenue could also accrue to the home government if it sells permissions to import under the quota to the highest domestic bidder.

[10] The FTC also estimated the impact of the proposed quota and tariff on the large car segment (intermediate, large, and luxury cars) of the car market.

[11] The consumer expenditure increases stemming from the quota and tariff restrictions are calculated by multiplying the price increase per unit by the number of cars sold after the imposition of the restriction. This amount is represented by areas A + B + C + D + E + H + I + J + K in Figure 1. The FTC also estimated the deadweight loss in consumption inefficiency, area F + G + L, to range from $115-$293 million for the quota and $581 million for the tariff.

[12] For other estimates of the costs of protecting the U.S. auto industry, see *CEA Calculations of the Impact on the Economy of a Japanese Automobile Import Restraint.* Hearings Before the Subcommittee on Economic Stabilitization of the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, April 3, 1980.

[13] See Wendy E. Takacs, "The Nonequivalence of Tariff, Import Quotas, and Voluntary Export Restraints," *Journal of International Economics,* Vol. 8, 1978, pp. 565-573. See also C. Fred Bergsten, "On the Nonequivalence of Import Quotas and Voluntary Export Restraints," in C. Fred Bergsten, *Toward A New International Economic Order,* (Lexington Books, D.C. Heath: Lexington, Massachusetts, 1975), p. 165.

[14] Bergsten, pp. 169-170. See also Morris E. Mokre and David G. Tarr, *Effects of Restrictions on U.S. Imports,* (Federal Trade Commission, Washington, D.C., June 1980), pp. 43-44.

[15] U.S. International Trade Commission, *Certain Motor Vehicles and Certain Chassis and Bodies Therefore,* USITC Publication 1110, December 1980, p. 162.

[16] "Japan's Export Curbs Won't Restore U.S. Jobs," *Business Week,* June 15, 1981, p. 22.

[17] Carol MacLennan and John O'Donnell, U.S. Department of Transportation, "The Effects of the Automotive Transition on Employment: A Plant and Community Study," December 1, 1980.

[18] "Japan's Export Curbs Won't Restore U.S. Jobs," p. 22.

[19] Congressional Budget Office, *Technical Note: Projected Composition of Sales of New Cars,* March, 1980.

# A Marketing and Economic Study of Selected Arts Organizations in the Greater Reno-Sparks Area

*by Celia Scully and Georgia White**

[*Editor's Note: This study was funded by the Nevada State Council on the Arts, the National Endowment for the Arts, a federal agency, and by the Bureau of Business and Economic Research, College of Business Administration, University of Nevada, Reno.*]

The purpose of our year-long study was to gather information to aid in the development of a marketing management plan for Sierra Arts Foundation and to compile a data base useful to other arts organizations in developing individual marketing plans.

Our frame of reference was necessarily broad and bridged several areas of marketing management concern. Included were the visual, participatory and performing arts. The scope of the study pertained only to arts audiences and organizations in the Greater Reno-Sparks area and did not examine the economic contribution of the individual artist.[1]

In meeting its primary purposes, the study also achieved other important objectives, such as developing demographics of audiences by art form, identifying perceived barriers to greater arts participation and compiling financial data to support the hypothesis that dollars invested in the arts benefit the community directly and indirectly.

**Growth in the Arts**

The arts are alive, visible and growing in the Reno-Sparks area. Washoe County has experienced a 60% population increase in the last decade (U.S. Census, 1980) and Reno is projected to be one of the fastest growing metropolitan areas in the next five years.

Information provided by 15 of the 33 community arts organizations affiliated with Sierra Arts Assembly (survey return rate, 45%) shows growth from their first fiscal year to fiscal 1980. The number of tours offered increased by 841%, from 12 to 113; operating budgets increased 452%, from $269,661 to $1.5 million; and total audience attendance grew by 160%, from 49,035 to 127,574—a figure which by comparison outranks UNR football attendance, Washoe County votes cast, Nevada State Fair and Reno Air Races attendance figures for 1980. The Arts audience figures represent only those reported by the 15 organizations and do not reflect total arts attendance in the area.

**Arts are Good Business**

Direct arts expenditures made in the community have a secondary impact, since they lead to local personal incomes and jobs, additional local business volume, bank deposits, investments by firms in needed property and equipment, and tax revenues from such sources as sales, property and income taxes. Through a multiplier or 'dollar-turnover' effect, this study attempted to estimate the effect of a flow of dollars through the community beginning with initial expenditures by the arts institutions, their staffs, and audiences. The economic role of the individual artists and businesses dealing in arts-related goods was not within the scope of this study, but obviously represents additional dollar effects—direct and indirect.

Survey participants were asked to estimate how much had been, or would be, spent in connection with attendance at a given arts event, excluding cost of tickets or admission fee. To avoid duplication of expense reporting, only one member of each group was asked to complete that portion of the questionnaire. Expenses reported totalled $16,986, representing 2,133 attenders in 939 groups.

Food and drink (before, during or after the event) represented the largest expenditure, $8,162, by 47% of groups. Transportation was next (bus, taxi or mileage at 20¢/mile) with 39% of groups reporting, $3,716. Twenty-nine percent of groups who came from out of town specifically to attend an arts event, spent $1,554 on hotels/motels. Baby-sitting expenses accounted for $433 by 32% of groups and parking, $408, by 42%.

Other economic studies have shown a positive relationship and spin-off effect between location of cultural event and business generated in nearby restaurants, shops, parking garages, etc. There is no reason to assume the Reno area is different, and, in fact, statistical significance can be shown between the Pioneer Theater Auditorium location for events and expenditures for food and drink, transportation, etc. In general, attenders of arts events in and around

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Pioneer Theater Auditorium spend more dollars by 3:1 (74%) for food, drink and transportation than audiences at other locations.

If it is assumed that expenditures for food, drink and transportation reported by each arts audience surveyed are representative of expenditures for the total audience attending that event, then projected audience expenditures for the seven major events examined total approximately $79,352. When this expenditure is multiplied by the number of regularly scheduled cultural events during the season, then arts audiences are conservatively estimated to have spent $283,494 over and above the admission/ticket price. Arts audiences are good business—contributing more than a quarter million dollars directly to the local economy for food, drink and transportation.

Multipliers used in similar studies have ranged from 1.7, as suggested by the National Endowment for the Arts, to 6 used in a recent California report. Since the Washoe County Annual Econometric Model indicates that the Washoe County economy is expected to become more like that of the nation, it was recommended that the multiplier for this study be similar to those used in other Western region reports on the arts and given economies.

Therefore, in calculating the economic effect of the nonprofit arts industry in the Greater Reno-Sparks area, the total amount of in-area expenditures by arts organizations and arts audiences ($1,357,982) was multiplied by 2 for a total effect of $2.7 million injected into the local economy.

**Audience Development—Feasible and Necessary**

Ten major arts organizations participated in audience surveys conducted between October and December, 1980. Events selected (opera, symphony and chamber orchestra concerts, museum exhibits and lectures, dance and theater performances, jazz, chorale and municipal band activities) were representative of visual and performing arts events held in the community during that period. Total house count was estimated to be 6,420. Completed questionnaires were received from 1,463 participants for an overall return rate of 23%.

The typical attender at a performing arts program might be described as well-educated (61% some college); professional/managerial, 38%; homemakers, 16%; between 36-49 years of age, 29%; (another 34%, below 35 years of age); with household gross income in the range of $20,000 to $29,000, 23%; a community resident, 62% from the Reno-Sparks area; and a subscriber/member of an arts groups, 30%.

Development and expansion of arts audiences are both feasible and necessary for continuing growth and success. When audiences were asked "how many cultural events have you attended in Reno during the last 12 months?": 16% responded 'today's only'; 36%, 2-5 times; 26%, 6-10; 20%, more than 10. Community Survey respondents, however, in a rank ordering of arts interest by attendance in the last 12 months, indicated prime interest in theater/drama. Yet, 30% of respondents had not attended once in the last year and 24% had only attended once. Ranked second was ballet. Yet 40% had never attended; 39% had attended once only. Symphonic concerts were ranked third. Thirty-five percent had never attended; 20% had attended once.

The ultimate marketing challenge the arts face, according to Philip Kotler in *Marketing the Arts,* is "to attract occasional attenders, convert them into loyal audience, move them to membership and, finally, stimulate them to donorship." Moving each of these publics to higher relationships and levels of involvement includes informing the enthusiasts, persuading the interested, and educating the non-attenders among other marketing strategies. Especially encouraging is the fact that so many new residents responding to the Community Survey went out of their way to let Sierra Arts Foundation know of their interest in the arts.

Although the study indicates a potential for audience expansion, arts interest per se cannot be taken for granted. Rather, it must be actively stimulated and developed. To support an active and growing arts community, increasing professionalism in marketing the arts is essential.

**Publicity/Promotion—Is there enough?**

Promotion and publicity are essential vehicles of information between the arts organizations and their audiences. *Encore!* (the Sierra Arts foundation publication) and word of mouth were identified as important communication/promotion channels.

Half of the Community Survey respondents indicated they would be more likely to attend more cultural events "if information about events were available sooner." Eighty percent now rely on print media for arts information (26%, *Encore!;* 41%, newspapers; both combined, 13%), while broadcast media (radio/TV) account for 9%. When asked how they would "like to find out what arts events/cultural activities are taking place in the Reno-Sparks area," 12% of Community Survey participants said radio/TV; 23%, newspapers; 31%, *Encore!*—making print media the more desirable information source for reaching 54% of respondents at this time.

The one-page Community Survey was included in three issues of *Encore!*, which, at the time, was being distributed free to more than 100,000 area residences as an insert in a mailed shopper. Two hundred seventy completed questionnaires were returned, a response rate of only .27%. A factor in the low return rate may have been the extensive Arts Audience surveying in the community during Fall, 1980, in which arts consumers had the opportunity to respond with similar data. Thus many residents apparently felt that there was no need for another arts-related survey. Validity of the sample can be assessed when the complete 1980 U.S. Census Report is released. Although data obtained from such a small sample cannot be considered scientifically valid, it does provide useful information from a group sufficiently interested in the arts to respond.

When arts audiences were asked how they "learned about today's event", 30% of respondents reported it was through their subscription. Major media newspapers, 9%, radio, 3%, and television, 1%, account for 13% of event advertisement; *Encore!,* another 8%. When the 22% who learned through a friend are combined with the 10% who learn from family, it appears that 32% of survey participants learn of arts events through word of mouth.

Lead time, then, becomes a major factor in planning to attend a cultural event, and an important consideration in the marketing communications mix. Identifying and informing those who serve as word of mouth resources for others should receive top priority.

### Arts & Tourism—Potential for Profitable Partnership

A preliminary study to determine visitor interest in participating in community cultural events and/or arts activities during a stay in the Reno-Tahoe area was conducted in January and February, 1981. A one-page questionnaire was distributed through the Reno and Sparks Chambers of Commerce Information Centers and four area hotel-casinos: the MGM Grand Hotel, Eldorado Hotel & Casino, Comstock Hotel & Casino, all in Reno, and Caesars Tahoe, Stateline. One hundred forty-six completed Visitor Survey questionnaires were returned. The rate of response, however, cannot be calculated because of problems encountered in distributing surveys during conventions.

The typical survey participant was male (56%); 35-59 years of age (44%); with total household income before taxes in the range of $20,000-$29,000. Eighty-four percent reported having been to the Reno-Tahoe area previously, with 47% in the area at survey time, primarily for casino entertainment/gaming, and 41% for vacation and recreation. Airlines accounted for 30% of travel; auto, 58%; bus, 8%.

Sixty-four percent of visitors indicated they attend arts activities in their current home town. Seventy-one percent said they would not come to the area with an arts activity or cultural event as the major purpose of the visit. But, if a cultural event were taking place during their Reno-Tahoe stay, 44% of survey participants would be interested in attending one or more activities. Another 36% said "maybe". One out of every four visitors would come to the Reno-Tahoe area with an arts activity or cultural event as the major purpose of the visit.

The arts hold a potential for development of a profitable partnership with the area's tourist industry and should be marketed along with the broad picture of what the Reno-Tahoe area offers visitors. One visitor from Seattle, responding to an Arts Audience Survey in Reno, commented, "We are visiting the Lake Tahoe area and this evening's concert was a delightful event I hadn't planned on."

The arts can offer visitors an added reason for extending a planned stay in the area—the bottom line benefits are expanded arts audiences and further contribution to the area's economy. A Philadelphia Study,[2] for example, showed that attracting an additional 100 visitors a day to the city's cultural activities, generated $78,000 in taxes, about $144,000 in increased bank deposits, $1.2 million in increased retail sales and approximately 111 new industry-related jobs.

It is anticipated that the location of the new Sierra Arts Center within walking distance of several major hotel-casinos in Reno will be a great asset—not only contributing to river beautification and city core revitalization, but also to the attraction of new industry and employees to the area and tourism diversification.

This present study will be used in completing the situation analysis and in developing a marketing management plan for the Foundation. Data will be made available to community arts organizations for use in developing individual marketing plans. The data base will also be used in monitoring the success of marketing strategies directed toward membership and audience development, growth of the arts, donations, etc. The study will also be used in promoting local and regional awareness and appreciation of the meaning of the arts in economic terms, and in inviting private and public sector support of one of the area's most valuable resources and stimulating industries.

Although the economic value of the arts is considerable, it should be considered a by-product rather than the main reason for their existence. We believe the primary purpose of the arts and cultural organizations is to create an environment in which the quality of life and creative potential of each human being are enhanced.

Fortunately, the quest for these non-tangible goals is compatible with the pursuit of economic objectives. We believe the arts organizations in the Reno-Sparks area will continue to play a role of increasing importance in the cultural and financial life of northern Nevada.

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*Footnotes:*

[1] The Nevada appropriation to the Council on the Arts was $86,730 for fiscal year 1980. The grant from the National Endowment for the Arts was $353,080 for the same fiscal year. Council on the Arts funds are distributed through various grants to art organizations statewide and appear, in part, in combined arts budgets as non-earned revenue.

[2] Nellum, A.L. & Associates, *Putting the Arts to Work,* a Two-Day Conference on the Arts, Employability and Human Resources.

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Edited by William R. Eadington
Professor of Economics, University of Nevada, Reno

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# Nevada Economic Indicators

## Statewide Statistical Data

| | July 1981 | August 1981 | September 1981 | 3rd Quarter 1981 | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | | | | | 2nd Quarter-1981 3rd Quarter-1981 | 3rd Quarter-1980 3rd Quarter-1981 |
| Total Labor Force (000's) | †398.2 | †398.6 | 401.3 | 399.4 | + 1.3 | + 4.3 |
| Total Employment (000's) | †371.1 | †374.0 | 374.9 | 373.3 | + 1.3 | + 4.3 |
| Unemployment (000's) | †26.8 | †24.5 | 26.3 | 25.9 | + 1.7 | + 6.4 |
| Unemployment Rate | †6.7 | †6.1 | 6.6 | 6.5 | −0− | + 2.1 |
| Unemployment Rate (Seasonally Adjusted) | †6.8 | †6.6 | 6.9 | 6.8 | + 2.5 | − .5 |
| Agricultural Empl. (000's) | †6.7 | †7.1 | 5.8 | 6.5 | + 18.8 | + .5 |
| Establishment Based Industrial Employment | | | | | | |
| Total All Industries (000's) | †418.3 | †422.9 | 425.3 | 422.2 | + 2.0 | + 4.5 |
| Mining | †8.0 | †8.1 | 8.1 | 8.1 | −0− | + 17.5 |
| Contract Construction | †25.9 | †26.4 | 25.9 | 26.1 | + 1.3 | − .1 |
| Manufacturing | †20.2 | †20.2 | 20.0 | 20.1 | + .3 | + 4.1 |
| Transportation & Utilities | | | | | | |
| Transportation | †13.5 | †13.5 | 13.3 | 13.4 | −0− | + 4.4 |
| Railroads | †1.6 | †1.6 | 1.6 | 1.6 | −0− | −0− |
| Air | †3.1 | †3.2 | 3.1 | 3.1 | −0− | −0− |
| Public Utilities | †12.1 | †12.2 | 12.2 | 12.2 | + 1.7 | + 6.7 |
| Total Trade | †87.2 | †86.9 | 87.3 | 87.1 | + 2.5 | + 8.8 |
| Wholesale Trade | †13.5 | †13.4 | 13.2 | 13.4 | + 1.3 | + 3.1 |
| Retail Trade | †73.7 | †73.5 | 74.1 | 73.8 | + 2.7 | + 9.9 |
| Finance, Ins., Real Estate | †18.6 | †18.6 | 18.4 | 18.5 | + .2 | + 4.5 |
| Service Industries | †178.4 | †183.0 | 181.8 | 181.1 | + 5.0 | + 4.3 |
| Hotels, Amusement and Recreation Combined | †120.0 | †124.2 | 123.0 | 122.4 | + 6.6 | + 3.3 |
| Medical and Health | †13.9 | †14.0 | 14.1 | 14.0 | + 1.4 | + 6.3 |
| Total Government | †54.4 | †54.0 | 58.3 | 55.6 | − 5.1 | − .7 |
| Federal | †10.6 | †10.6 | 10.5 | 10.6 | + 2.6 | − 3.9 |
| State and Local | †43.8 | †43.4 | 47.8 | 45.0 | − 6.8 | + .1 |
| Education | †15.2 | †15.3 | 19.5 | 16.7 | − 17.2 | − .4 |
| Average Weekly Earnings in Selected Industries | | | | | | |
| Mining | †441.05 | †447.04 | 456.37 | 448.15 | + .8 | + 27.6 |
| Construction | †554.66 | †586.25 | 585.00 | 575.30 | + 1.1 | + 16.2 |
| Manufacturing | †322.33 | †325.14 | 350.59 | 332.69 | + 3.7 | + 8.2 |
| Public Utilities | †407.40 | †412.57 | 412.57 | 410.85 | + 5.4 | + 16.4 |
| Trade | †244.97 | †255.65 | 247.95 | 249.52 | + 3.8 | + 7.8 |
| Average Weekly Hours in Selected Industries | | | | | | |
| Mining | †40.8 | †40.9 | 41.3 | 41.0 | − 2.3 | + 10.3 |
| Construction | †35.9 | †36.3 | 36.0 | 36.1 | − 2.0 | + 3.2 |
| Manufacturing | †38.1 | †38.8 | 38.4 | 38.4 | − 1.2 | + .8 |
| Public Utilities | †42.0 | †41.8 | 41.8 | 41.9 | + 4.6 | + 1.0 |
| Trade | †34.6 | †34.5 | 34.2 | 34.4 | − .1 | + .9 |
| Average Hourly Earnings in Selected Industries | | | | | | |
| Mining | †10.81 | †10.93 | 11.05 | 10.93 | + 3.2 | + 15.7 |
| Construction | †15.45 | †16.15 | 16.25 | 15.95 | + 3.1 | + 12.6 |
| Manufacturing | †8.46 | †8.38 | 9.13 | 8.66 | + 5.0 | + 7.4 |
| Public Utilities | †9.70 | †9.87 | 9.87 | 9.81 | + .8 | + 15.2 |
| Trade | †7.08 | †7.41 | 7.25 | 7.25 | + 3.9 | + 6.8 |
| Construction Activity | | | | | | |
| Residential ($000's) | 62,600 | 46,700 | 119,200 | 228,500 | + 36.1 | + 45.0 |
| Nonresidential ($000's) | 25,800 | 21,700 | 44,000 | 91,500 | + 1.6 | + 12.4 |
| Nonbuilding ($000's) | 6,700 | 8,900 | 6,600 | 22,200 | − 7.1 | − 27.2 |
| Total ($000's) | 95,000 | 77,300 | 169,800 | 342,100 | + 21.4 | + 26.9 |
| # of New Dwelling Units | 830 | 796 | 1,074 | 2,700 | − 14.9 | − 29.5 |
| Banking Activities ($000,000's) | | | | | | |
| Loans | 1,965 | 1,955 | 2,006 | 1,975 | + .6 | + 4.1 |
| Investments | 670 | 660 | 657 | 662 | + .8 | + 2.9 |
| Total Deposits | 2,687 | 2,699 | 2,791 | 2,725 | + .3 | + 4.7 |
| Demand Deposits | 949 | 934 | 1,001 | 961 | − 5.8 | − 8.4 |
| Time & Savings Deposits | 1,736 | 1,761 | 1,783 | 1,760 | + 4.2 | + 14.9 |

# Statewide Statistical Data (Continued)

| | July 1981 | August 1981 | September 1981 | 3rd Quarter 1981 | PERCENT CHANGE 2nd Quarter-1981 3rd Quarter-1981 | PERCENT CHANGE 3rd Quarter-1980 3rd Quarter-1981 |
|---|---|---|---|---|---|---|
| Tax Collections ($) | | | | | | |
| Liquor | 1,046,810 | 984,771 | 914,956 | 2,946,537 | − 9.6 | + .7 |
| Cigarette | 1,195,866 | 1,198,605 | 1,163,559 | 3,558,030 | + 4.2 | + 7.7 |
| Fuel | 2,097,786 | 3,495,973 | 3,596,480 | 9,190,239 | + 87.5 | + 55.5 |
| Taxable Sales ($000's) | − | − | − | 1,744,495 | + .1 | + 6.3 |
| Gaming Revenues ($000's) | − | − | − | 688,373 | + 6.5 | + 8.2 |
| Telephones in Service | 819,231 | 822,532 | 823,329 | 821,697 | + 1.6 | + 4.7 |
| Highway Traffic Flow | | | | | | |
| 17 Selected Stations (Avg. Daily) | 132,426 | 134,413 | 119,133 | 128,657 | + 15.2 | + 5.0 |
| Prices Received by NV Farmers | | | | | | |
| Sheep (CWT) | 17.00 | 17.00 | 18.00 | 17.33 | + 2.0 | + 4.0 |
| Lambs (CWT) | 62.00 | 60.00 | 50.50 | 57.50 | + 2.1 | − 7.8 |
| Beef Cattle (CWT) | 59.40 | 50.00 | 52.40 | 53.93 | − 4.1 | − 10.4 |
| Veal Calves (CWT) | 64.00 | 58.00 | 59.00 | 60.33 | − 7.7 | − 13.4 |
| Alfalfa Hay (baled ton) | 99.00 | 74.00 | 70.00 | 81.00 | − 6.2 | − 17.3 |
| Other Hay (baled ton) | 80.00 | 60.00 | 55.00 | 65.00 | − 5.3 | − 18.1 |
| Wool (lb) | .79 | .75 | .75 | .76 | + 1.8 | − 2.1 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Las Vegas Standard Metropolitan Statistical Area

| | | | | | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | July 1981 | August 1981 | September 1981 | 3rd Quarter 1981 | 2nd Quarter-1981 3rd Quarter-1981 | 3rd Quarter-1980 3rd Quarter-1981 |
| Total Labor Force (000's) | †217.4 | †219.2 | 222.1 | 219.6 | + 1.3 | + 4.8 |
| Total Employment (000's) | †200.1 | †203.7 | 205.3 | 203.0 | + 1.3 | + 5.1 |
| Unemployment (000's) | †17.0 | †15.4 | 16.7 | 16.4 | + .4 | + 2.1 |
| Unemployment Rate | †7.8 | †7.0 | 7.5 | 7.4 | − 1.3 | − 3.0 |
| Unemployment Rate (Seasonally Adjusted) | †7.6 | †7.0 | 7.6 | 7.4 | − 2.2 | − 5.9 |
| Agricultural Employment (000's) | †1.0 | †1.1 | .9 | 1.0 | + 15.4 | −0− |
| Establishment Based | | | | | | |
| Industrial Employment | | | | | | |
| Total All Industries (000's) | †227.9 | †232.2 | 234.2 | 231.4 | + 2.0 | + 4.9 |
| Mining | †.7 | †.7 | .7 | .7 | + 10.5 | + 40.0 |
| Contract Construction | †13.4 | †13.5 | 13.4 | 13.4 | + 2.8 | + 1.5 |
| Manufacturing | †7.3 | †7.3 | 7.1 | 7.2 | −0− | + 4.3 |
| Transportation & Utilities | | | | | | |
| Transportation | †8.0 | †8.0 | 8.0 | 8.0 | + .8 | + 5.3 |
| Railroads | †.6 | †.6 | .6 | .6 | −0− | −0− |
| Air | †2.6 | †2.7 | 2.6 | 2.6 | −0− | + 1.3 |
| Public Utilities | †6.0 | †6.0 | 6.0 | 6.0 | + 2.9 | + 8.4 |
| Total Trade | †50.1 | †49.7 | 49.8 | 49.9 | + 1.6 | + 9.8 |
| Wholesale Trade | †6.3 | †6.2 | 6.2 | 6.2 | + 2.2 | + 2.2 |
| Retail Trade | †43.8 | †43.5 | 43.6 | 43.6 | + 1.5 | + 11.0 |
| Finance, Ins., Real Estate | †10.7 | †10.7 | 10.6 | 10.7 | −0− | + 5.3 |
| Service Industries | †106.6 | †111.7 | 111.5 | 109.9 | + 4.6 | + 3.6 |
| Hotels, Gaming & Recreation | †69.9 | †74.6 | 74.5 | 73.0 | + 5.8 | + 2.7 |
| Total Government | †25.1 | †24.6 | 27.1 | 25.6 | − 5.9 | + 1.6 |
| Federal | †5.3 | †5.3 | 5.3 | 5.3 | + 2.6 | + 3.9 |
| State and Local | †19.8 | †19.3 | 21.8 | 20.3 | − 7.9 | + 1.0 |
| Education | †7.6 | †7.7 | 9.8 | 8.4 | − 16.9 | + .8 |
| Construction Activity | | | | | | |
| Las Vegas | | | | | | |
| Residential ($000's) | 3,832 | 6,333 | 1,582 | 11,747 | − 21.8 | − 67.1 |
| Nonresidential ($000's) | 3,964 | 3,896 | 1,830 | 9,690 | − 48.8 | − 75.8 |
| Total Value ($000's) | 7,796 | 10,229 | 3,412 | 21,437 | − 36.8 | − 71.7 |
| # of New Family Units | 100 | 283 | 36 | 419 | + 17.4 | − 69.5 |
| North Las Vegas | | | | | | |
| Residential ($000's) | 931 | 693 | 2,047 | 3,671 | + 6.1 | + 36.1 |
| Nonresidential ($000's) | 1,091 | 143 | 5,636 | 6,870 | + 181.3 | + 215.7 |
| Total Value ($000's) | 2,022 | 836 | 7,683 | 10,541 | + 78.6 | + 116.3 |
| # of Permits | 61 | 52 | 106 | 219 | − 27.2 | + 14.7 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | 739,060 | 677,480 | 549,902 | 1,966,442 | + 36.5 | + 13.3 |
| # of Customers | 195,541 | 196,520 | 196,835 | 196,298 | + 1.2 | + 5.9 |
| Taxable Sales ($000's) | − | − | − | 928,684 | + .2 | + 11.2 |
| Gaming Revenues ($000's) | − | − | − | 424,434 | + 0.2 | + 4.4 |
| Telephones in Service | 501,989 | 503,487 | 504,348 | 503,274 | − .6 | + 1.6 |
| Air Transportation-McCarran | | | | | | |
| Passengers (Arr. & Depart.) | 859,526 | 799,871 | 754,242 | 2,413,639 | + 2.2 | − 5.1 |
| Cargo Enplaned (lbs.) | 1,080,755 | 799,871 | 1,035,109 | 3,093,162 | − 22.0 | + 1.9 |
| Cargo Deplaned (lbs.) | 1,601,152 | 1,447,910 | 1,644,112 | 4,713,174 | − 4.5 | − 6.4 |
| Highway Traffic Flow | | | | | | |
| 4 Selected Stations (Avg. Daily) | 34,530 | 35,225 | 30,597 | 33,450 | + 9.8 | + 7.7 |
| Room Tax ($) | | | | | | |
| Clark County | 1,330,699 | 1,272,287 | 1,286,229 | 3,889,215 | − 11.7 | + 1.6 |
| Las Vegas City | 244,152 | 234,295 | 212,631 | 691,078 | − 3.1 | − 4.7 |
| SMSA Total | 1,582,277 | 1,512,147 | 1,504,830 | 4,599,254 | − 10.6 | + .5 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

# Reno Standard Metropolitan Statistical Area

| | July 1981 | August 1981 | September 1981 | 3rd Quarter 1981 | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | | | | | 2nd Quarter-1981 3rd Quarter-1981 | 3rd Quarter-1980 3rd Quarter-1981 |
| Total Labor Force (000's) | †111.7 | †109.5 | 110.7 | 110.6 | + .4 | + 1.8 |
| Total Employment (000's) | †106.1 | †104.4 | 105.3 | 105.3 | + .3 | + 1.5 |
| Unemployment (000's) | †5.6 | †5.1 | 5.4 | 5.4 | + 7.3 | + 10.3 |
| Unemployment Rate | †5.0 | †4.7 | 4.9 | 4.9 | + 3.5 | + 9.8 |
| Unemployment Rate (Seasonally Adjusted) | †5.6 | †5.5 | 5.8 | 5.6 | + 12.7 | + 6.3 |
| Agricultural Employment (000's) | †.8 | †.8 | .7 | .8 | + 21.1 | −0− |
| Establishment Based Industrial Employment | | | | | | |
| Total All Industries (000's) | †118.5 | †117.8 | 119.0 | 118.4 | + 3.3 | + 1.9 |
| Mining | †1.2 | †1.2 | 1.2 | 1.2 | + 2.9 | + 12.5 |
| Contract Construction | 7.2 | 7.1 | 7.1 | 7.1 | − 4.0 | − 5.3 |
| Manufacturing | †8.4 | †8.4 | 8.4 | 8.4 | −0− | + 2.0 |
| Transportation & Utilities | | | | | | |
| Transportation | †3.9 | †3.9 | 3.8 | 3.9 | − .9 | + .9 |
| Railroads | †.5 | †.5 | .5 | .5 | −0− | −0− |
| Public Utilities | †4.6 | †4.5 | 4.5 | 4.5 | − 1.4 | + 1.5 |
| Total Trade | 26.4 | 26.4 | 26.9 | 26.6 | + 2.7 | + 7.7 |
| Wholesale Trade | †6.0 | †6.0 | 5.9 | 6.0 | + .6 | + 3.5 |
| Retail Trade | †20.4 | †20.4 | 21.0 | 20.6 | + 3.3 | + 9.0 |
| Finance, Ins., Real Estate | †6.3 | †6.3 | 6.3 | 6.3 | + 1.1 | + 2.7 |
| Service Industries | †45.1 | †44.6 | 44.2 | 44.6 | + 5.0 | + .5 |
| Hotels, Gaming & Recreation | †29.8 | †29.6 | 29.0 | 29.5 | + 7.9 | + .3 |
| Total Government | †15.4 | †15.4 | 16.6 | 15.8 | − 4.8 | − .8 |
| Federal | †3.0 | †3.0 | 3.0 | 3.0 | + 1.1 | + 1.1 |
| State and Local | †12.4 | †12.4 | 13.6 | 12.8 | − 6.1 | − 1.3 |
| Education | †4.9 | †4.9 | 6.1 | 5.3 | − 16.3 | − 4.2 |
| Construction Activity | | | | | | |
| Reno | | | | | | |
| Residential ($000's) | 6,217 | 1,544 | 1,318 | 9,079 | − 44.9 | − 22.9 |
| Nonresidential ($000's) | 4,142 | 1,111 | 7,934 | 13,187 | + 2.3 | − 65.2 |
| Total Value ($000's) | 10,359 | 2,655 | 9,252 | 22,266 | − 24.2 | − 55.1 |
| # of New Family Units | 61 | 18 | 17 | 96 | − 84.8 | − 62.5 |
| Sparks | | | | | | |
| Residential ($000's) | 376 | 3,607 | 456 | 4,439 | + 2,141.9 | + 165.2 |
| Nonresidential ($000's) | 870 | 375 | 1,056 | 2,301 | − 71.6 | − 77.6 |
| Total Value ($000's) | 1,246 | 3,982 | 1,512 | 6,740 | − 18.7 | − 43.5 |
| # of New Family Units | 8 | 6 | 12 | 26 | | − 16.1 |
| Washoe County (Unincorporated) | | | | | | |
| Residential ($000's) | 7,891 | 4,869 | 6,405 | 19,165 | + 77.2 | − 57.5 |
| Nonresidential ($000's) | 715 | 530 | 870 | 2,115 | − 55.2 | − 87.2 |
| Total Value ($000's) | 8,606 | 5,499 | 7,275 | 21,380 | + 37.3 | − 65.3 |
| # of New Family Units | 70 | 49 | 56 | 175 | + 60.6 | − 68.2 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 45,962 | 66,241 | 46,188 | 158,391 | + 13.6 | + 18.4 |
| Commercial | 99,409 | 101,132 | 100,386 | 300,927 | + 14.3 | + 8.0 |
| # of Customers | | | | | | |
| Residential | 78,968 | 79,132 | 79,296 | 79,132 | + 0.7 | + 3.2 |
| Commercial | 11,863 | 11,894 | 11,951 | 11,903 | + 0.4 | + 3.2 |
| Taxable Sales ($000's) | – | – | – | 449,588 | + 2.2 | + 2.2 |
| Gaming Revenues ($000's) | – | – | – | 150,621 | + 14.2 | + 13.3 |
| Telephones in Service | 195,153 | 195,267 | 194,968 | 195,129 | + .8 | + 4.4 |
| Air Transportation-Reno | | | | | | |
| Passengers (Arr. & Depart.) | 214,023 | 201,212 | 195,531 | 610,766 | + 16.8 | − 5.0 |
| Cargo Enplaned (lbs.) | 438,368 | 304,056 | 520,737 | 1,263,161 | − 15.9 | − 16.5 |
| Cargo Deplaned (lbs.) | 537,547 | 405,556 | 539,409 | 1,482,512 | − 12.7 | − 15.5 |
| Highway Traffic Flow | | | | | | |
| 7 Selected Stations (Avg. Daily) | 78,912 | 80,218 | 71,990 | 77,040 | NA | + 3.1 |
| Room Tax ($) | | | | | | |
| Washoe County | 70,117 | 92,947 | 96,441 | 259,505 | + 80.8 | + 11.5 |
| Reno | 559,178 | 640,682 | 624,465 | 1,824,325 | + 24.5 | + 11.2 |
| Sparks | 40,383 | 45,825 | 44,428 | 130,636 | + 30.9 | + 6.5 |
| SMSA Total | 669,678 | 779,454 | 765,334 | 2,214,466 | + 29.6 | + 11.0 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Selected U.S. and Regional Economic Indicators

## Consumer Price Index & Indexes of Selected Categories
## All Urban Consumers
## (1967 = 100%)

| | July 1981 | August 1981 | September 1981 | 3rd Quarter 1981 | PERCENT CHANGE 2nd Quarter-1981 3rd Quarter-1981 | PERCENT CHANGE 3rd Quarter-1980 3rd Quarter-1981 |
|---|---|---|---|---|---|---|
| All Items | 274.4 | 276.5 | 279.3 | 276.7 | + 2.9 | + 10.9 |
| Food | 276.2 | 277.4 | 278.0 | 277.2 | + 1.5 | + 7.4 |
| Housing | 297.0 | 299.7 | 303.7 | 300.1 | − 15.5 | + 12.7 |
| Apparel and Upkeep | 187.4 | 187.4 | 190.7 | 188.5 | + 1.2 | + 5.3 |
| Transportation | 282.6 | 283.7 | 285.2 | 283.8 | + 2.2 | + 12.3 |
| Medical Care | 295.6 | 299.3 | 301.7 | 298.9 | + 3.4 | + 11.3 |

## Producer Price Indexes for Selected Commodity Groupings
## (1967 = 100%)

| | July 1981 | August 1981 | September 1981 | 3rd Quarter 1981 | PERCENT CHANGE 2nd Quarter-1981 3rd Quarter-1981 | PERCENT CHANGE 3rd Quarter-1980 3rd Quarter-1981 |
|---|---|---|---|---|---|---|
| All Commodities | 296.0 | 296.2 | 295.5 | 295.9 | + .8 | + 8.7 |
| Fuel and Power | 703.4 | 704.1 | 703.2 | 703.6 | − .2 | + 19.4 |
| Machinery and Equipment | 264.5 | 266.0 | 267.8 | 266.1 | + 2.1 | + 9.7 |
| Metals and Metal Products | 302.5 | 304.3 | 305.1 | 304.0 | + 1.7 | + 7.2 |
| Nonmetallic Mineral Products | 313.9 | 314.0 | 313.1 | 313.7 | + .7 | + 10.1 |
| Textile Products & Apparel | 200.5 | 201.4 | 202.5 | 201.5 | + 1.8 | + 8.8 |

## U.S. Labor Force

| | July 1981 | August 1981 | September 1981 | 3rd Quarter 1981 | PERCENT CHANGE 2nd Quarter-1981 3rd Quarter-1981 | PERCENT CHANGE 3rd Quarter-1980 3rd Quarter-1981 |
|---|---|---|---|---|---|---|
| Civilian Labor Force (000's) | 108,408 | 107,771 | 105,964 | 107,381 | + 0.8 | + 1.4 |
| Total Employment (000's) | 100,474 | 100,013 | 98,277 | 99,588 | + 0.8 | + 1.6 |
| Unemployment (000's) | 7,934 | 7,758 | 7,687 | 7,793 | + 0.7 | − 2.1 |
| Unemployment Rate | 7.3 | 7.2 | 7.3 | 7.3 | −0− | − 3.1 |
| Unemployment Rate (Seasonally Adjusted) | 7.0 | 7.2 | 7.5 | 7.2 | − 2.7 | − 5.2 |

## DATA SOURCES

*Information for statistical tables were developed in cooperation with the following sources:*

Bell Telephone Company of Nevada; California Pacific Utilities Co.; Central Telephone Co.; Churchill County Telephone & Telegraph System; Continental Telephone Co.; F. W. Dodge Co.; Elko City Engineer; City of Fallon; Federal Reserve Bank of San Francisco; First American Title Co. of Nevada (Reno); Lake Mead National Recreation Area; Las Vegas Convention Authority; Las Vegas Dept. of Building & Safety; Lincoln County Telephone System; McCarran International Airport; Moapa Valley Telephone Co.; Mt. Wheeler Power Co.; Nevada Dept. of Highways; Nevada Department of Taxation - Cigarette, Liquor, Fuel, and Sales and Use Tax Divisions; Nevada Employment Security Dept.; Nevada Gaming Commission; Nevada Power Co. - Las Vegas and Elko Divisions; Nevada Telephone & Telegraph Co.; North Las Vegas Building Dept.; Reno Building Inspection Dept.; Reno International Airport; Reno-Sparks Convention Authority; Rio Virgin Telephone Co.; Sparks Convention Authority; Rio Virgin Telephone Co.; Sierra Pacific Power Co.; Sparks Building Dept.; U.S. Dept. of Agriculture-Statistical Reporting Service; U.S. Dept. of Commerce-Bureau of Economic Analysis; Dept. of Labor - Bureau of Labor Statistics; White Pine County Regional Planning Commission.

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# NEVADA REVIEW of BUSINESS & ECONOMICS

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*Bureau of Business & Economic Research*
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# Washoe County Annual Econometric Model: 1982 and 1982-1991 Forecast

*by John B. Hester and*
*William E. Rosen**

## I. Introduction

The purpose of this report is to present the Washoe County Annual Econometric Model (WCAEM) forecasts for the year 1982, and for the ten year time period 1982-1991. The WCAEM is a new model previously introduced in the Fall 1981 issue of the *Nevada Review of Business and Economics.*[1]

Subsequent to the aforementioned Fall 1981 article, the WCAEM has undergone modifications to improve its ability to analyze the workings of the local economy and to improve its forecasting precision. Short-and long-run forecast tests indicate that the modified model is more accurate and stable than the previous specification.

Because of the modifications and the apparent uncertain performance of the national economy, we have delayed until now, publishing our 1982-1991 Washoe forecasts in the *Review.* However, these forecasts were presented to the Washoe Council of Governments and the Regional Planning Commission, and have been available through the Regional Administrative Planning Agency.

The precision of the forecasts, particularly in the long-run, depend not only on the accuracy of the WCAEM and the exogenous national forecasts provided by Wharton, but also on the current and future decisions of Washoe's political leaders. Local policies, such as condominium conversion ordinances, property tax rates, water rights, and strategies to attract new business and industries, to name a few, can and will affect the performance of the Washoe County economy. The forecasts presented below do not reflect possible changes in these policies. Important shifts in these and other local policies will likely affect our forecasts.

## II. National Economic Assumptions

The Washoe County economy is sensitive to national economic forces. Local sectors especially sensitive to national factors are services (which include gaming and hotels), manufacturing, and contract construction. Concomitantly, the behavior of these and other "basic type" sectors influence the overall level of economic activity in the Washoe region.

The immediate and future expectations for the national economy are somewhat more uncertain than usual. The eventual levels of federal spending and taxation are still unknown, and future monetary policies might diverge from current trends with the possible appointment of a new chairman of the Federal Reserve Board in late 1983. The WCAEM forecasts are linked to the December 1981 Wharton Annual Model Post Meeting forecasts for the nation. Wharton updates its annual forecasts on a quarterly basis in order to keep abreast of changing national economic policies. Subsequent forecasts of the WCAEM will reflect the Wharton updates.[2]

The major assumptions of the December 1981 Wharton Model are:[3]

- There will not be a balanced budget as the Reagan Administration had predicted earlier.
- The Administration will achieve the unspecified budget cuts requested for 1983 and 1984.
- Monetary growth will be limited to prevent a runup of interest rates in 1983 and 1984.[4]
- The new personal tax cuts will go into effect as legislated.
- Federal spending will closely parallel that assumed for the Administration's Mid-Session Review of the 1982 Budget.
- After 1986 there will be a very modest rebound in per capita expenditures for nondefense outlays.

The outlook for the national economy, based on these assumptions, is summarized as follows:

- The near term outlook is for recovery in 1983 led by increased residential and business fixed investment.
- After strong growth in 1983-1985 there will be a slight pause in growth in 1986.
- Inflation will level off between 1983 and 1986 and decline slightly thereafter.
- The unemployment rate is expected to decline until the 1986 pause in growth. After 1986, it is expected to decline steadily until the end of the decade.

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## III. Washoe County Forecast: 1982

The Washoe County economy will grow slower in 1982 than the expected long-run 1981-1991 trend. The primary reason for this slowdown is the national recession.

Table 1 shows the 1981-1982 and 1981-1991 annual average growth rates for the major population, income, and labor force variables.

### TABLE 1*

| Variable | Percent Growth 1981-1982 | Annual Average Percent Growth 1981-1991 |
|---|---|---|
| Labor Force | 3.75 | 4.268 |
| Population | 3.43 | 3.992 |
| Establishment Employment | 3.43 | 4.609 |
| Per Capita Personal Income | 6.86 | 8.3 |

***1981 benchmark figures for Washoe County are based on the preliminary estimates of the Department of Employment Security.*

The unemployment rate in 1982 is expected to average about 5.3 percent. This is not significantly different from the 1981 preliminary unemployment rate estimate of 5.4 percent. Because of the slower economic growth in Washoe County in 1982, local population and labor force growth will also decline. Consequently, the effect on the rate of regional unemployment will be insignificant. Relative to the national economy, the Washoe County unemployment picture will be comparatively healthy. National unemployment rates in 1982 are expected to exceed 8 percent.

The actual 1982 forecasts are presented in Tables 2, 3 and 4. Certain sectors are expected to have absolute declines in employment compared to 1981. These sectors are Agriculture, Mining, Federal Government, State and Local Government, and Transportation. The expected employment declines are modest, with the commulative total estimated at 600 jobs. The remaining sectors should experience some growth in employment.

### TABLE 2

### Income, Product and Employment Accounts by Industry 1982

| Industry Group | Income (thousands) | Product (millions) | Employment (thousands) |
|---|---|---|---|
| Ag. Serv., For., Fish. | $ 11,091 | $ 38 | .4 |
| Mining | 25,568 | 74 | 1.1 |
| Construction | 231,024 | 452 | 7.8 |
| Manufacturing | 177,012 | 241 | 8.5 |
| Trans., Comm., Util. | 224,602 | 380 | 8.2 |
| Wholesale & Retail Trade | 405,811 | 730 | 26.2 |
| Fin., Ins., Real Estate | 131,491 | 257 | 6.7 |
| Services | 677,839 | 1,307 | 45.7 |
| Federal Government | 87,008 | 83 | 2.9 |
| State & Local Gov. | 211,656 | 244 | 12.8 |
| TOTALS | $2,183,102 | $3,806 | 120.3 |

Forecast Date: January 1982

Notes: 1. Totals may not equal the sum of the individual components due to rounding.

2. The total income figure includes farm income.

### TABLE 3

### Derivation of Personal Income by Place of Residence[2] 1982

| | |
|---|---|
| Total Labor and Proprietors Income by Place of Work | $2,186,579 |
| Less: Personal Contributions for Social Insurance by Place of Work | 102,912 |
| Net Labor and Proprietors Income by Place of Work | $2,083,668 |
| Plus: Residence Adjustment | -74,008 |
| Net Labor and Proprietors Income by Place of Residence | $2,009,660 |
| Plus: Dividends, Interest, and Rent | 419,884 |
| Plus: Transfer Payments | 324,357 |
| Personal Income by Place of Residence | $2,753,901 |
| Per Capita Personal Income (Dollars) | 13,432 |
| Total Population (Thousands) | 205.0 |

Forecast Date: January 1982

Notes: 1. The dividends, interest, and rent figure includes the capital consumption adjustment for rental income of persons.

2. All figures are in thousands of collars unless otherwise noted.

### TABLE 4

### Population and Labor Force[2] 1982

| Age | Population Male | Population Female | Total |
|---|---|---|---|
| 0-4 | 6.9 | 6.7 | 13.6 |
| 5-9 | 6.3 | 5.9 | 12.2 |
| 10-14 | 6.7 | 6.5 | 13.2 |
| 15-19 | 8.1 | 7.9 | 15.9 |
| 20-24 | 9.7 | 9.7 | 19.4 |
| 25-29 | 10.4 | 10.1 | 20.5 |
| 30-34 | 10.0 | 9.3 | 19.3 |
| 35-39 | 8.0 | 7.3 | 15.3 |
| 40-44 | 6.8 | 6.3 | 13.0 |
| 45-49 | 5.9 | 5.6 | 11.5 |
| 50-54 | 5.4 | 5.3 | 10.7 |
| 55-59 | 5.4 | 5.4 | 10.8 |
| 60-64 | 4.7 | 4.8 | 9.5 |
| 65-69 | 3.7 | 3.9 | 7.6 |
| 70-74 | 2.5 | 2.8 | 5.3 |
| 75-79 | 1.4 | 1.9 | 3.4 |
| 80-84 | .8 | 1.2 | 2.0 |
| 85 + | .6 | 1.1 | 1.7 |
| TOTALS | 103.2 | 101.8 | 205.0 |

| | |
|---|---|
| Total Employment, Establishment based | 120.3 |
| Conceptual Difference (HH vs. Estab) | 13.1 |
| Total Employment, Household Based | 107.2 |
| Total Labor Force | 113.2 |
| Total Unemployment | 6.0 |
| Unemployment Rate (Percent of Labor Force) | 5.3 |

Forecast Date: January 1982

Notes: 1. Totals may not equal the sum of individual components due to rounding.

2. All figures are in thousands unless otherwise noted.

The largest growth sectors will be construction, finance, and services. Construction employment is forecasted to grow because interest rates are expected to decline in the latter part of 1982. The rise in construction employment and output will stimulate the finance sector. The service sector shows a growth of about 2500 employees, due in part to the completion of casino expansions and the construction of new hotel accommodations.

## IV. **Washoe County Forecast: 1981-1991**

Based on the outlook for the national economy, summarized in Section II above, the major implications for the Washoe County economy are as follows:[5]

- Population will grow steadily from an estimated 198.2 thousand in 1981 to 291.2 thousand in 1991.
- The fastest population growth will occur in the 1983-1985 period.
- Labor force growth will be strongest in the 1983-1985 period.
- The unemployment rate will vary between a low of 5.1% to a high of 5.8% with a projected rate of 5.2% for 1991.
- Establishment based employment will grow from approximately 116.3 thousand in 1981 to 182.5 thousand in 1991.
- Government employment (state, local and federal) will not grow until the latter half of the forecast period.
- Agricultural services, forestry, and fisheries employment will decline from approximately 500 employees to about only 100 employees in 1991.
- The level of per capita personal income will grow approximately 8.3% per year thus slightly exceeding the rate of inflation measured by the CPI of the U.S. Department of Labor.

In summary, the Washoe County economy will have steady growth over the next ten years with a sluggish near-term outlook as compared to historical growth and a rapid rate of growth between 1983 and 1985.

With the exception of the agricultural services, forestry, and fisheries industry group, all industries are expected to show continued growth. The composition of total employment by sector is shown below. As these figures indicate, services, contract construction and finance, insurance and real estate will be the fastest growing sectors. The slower growth sectors will be government, wholesale and retail trade, transportation, communications, and public utilities. As stated previously, agricultural services, forestry and fisheries is expected to decline in employment.

| Sector (Industry Group) | 1981% | 1991% | Change |
|---|---|---|---|
| Ag. Serv., For., Fisheries | 0.4 | 0.1 | -0.3 |
| Mining | 1.0 | 1.3 | 0.3 |
| Contract Construction | 6.0 | 8.6 | 2.6 |
| Manufacturing | 7.0 | 6.8 | -0.2 |
| Trans., Comm., Pub. Util. | 7.1 | 5.3 | -1.8 |
| Wholesale & Retail Trade | 22.3 | 19.1 | -3.2 |
| Fin., Ins., Real Estate | 5.2 | 7.2 | 2.0 |
| Services | 37.1 | 41.8 | 4.7 |
| Federal Govt. | 2.6 | 1.9 | -0.7 |
| State & Local Govts. | 11.2 | 7.7 | -3.5 |
| TOTALS | 99.9 | 99.8 | |

Note: Totals may not equal 100% due to rounding.

Output and income generated by each of these sectors are distributed in approximately the same proportions as employment. Personal income and per capita income will continue to have a healthy growth over the forecast period. Per capita income is expected to grow at an average annual rate of 8.3% which is slightly higher than the expected rate of inflation of 7.8% in the U.S. Personal income and per capita personal income figures are shown below for 1971, 1981, and 1991.

| | 1971 | 1981 | 1991 |
|---|---|---|---|
| Personal Income (000's) | $685,361 | $2,489,126 | $8,121,378 |
| Per Capita Personal Income | 5,422 | 12,561 | 27,892 |

Note: 1971 figures are from the Bureau of Economic Analysis.

---

***Footnotes:***

[1] Hestor, John B. and Rosen, William E., "The Washoe County Annual Econometric Model," *Nevada Review of Business and Economics,* Fall 1981, pp. 2-4.

[2] Short-and Long-run annual forecasts for the Washoe County economy are updated and reported on a quarterly basis. The Regional Administrative Planning Agency distributes copies of these updated forecasts.

[3] This information is also available through the "1982-1991 Annual Forecast", currently distributed by the Regional Administrative Planning Agency.

[4] Inflation, as induced by high growth rates in the money supply, will cause interest rates in the long-run to increase. Many individuals often confuse the direction of causation, thinking that high interest rates cause high inflation. In fact, the opposite is true.

[5] These data are also available from the Regional Administrative Planning Agency. (see footnote 3)

# The Premium-Grind: Atlantic City Casino Hybrid

*by James F. Smith**

*The author describes the changes in Atlantic City casino marketing strategies since 1978 and shows that the casinos try to build an image or recognition factor among their patrons. This article is an update of a paper presented by the author at the Fifth National Conference on Gambling and Risk Taking at Stateline, Nevada, in October, 1981.*

## Introduction

The arrival of legalized casino gambling on the East Coast with the opening of Resorts International Casino on May 26, 1978 was greeted with extensive media coverage as well as a welter of mixed emotions. As the opening flush paled into the routine of the casino business, proponents of gambling interests boasted of the economic revival that the new tourist attraction brought to the Jersey shore while legislators and gaming enforcement personnel took pride in the toughness of their casino regulation. At the same time, local citizens' groups protested land-grabbing by casino developers and speculators, causing widespread displacement of Atlantic City's elderly and minority residents, while critics of gambling lamented violations of gaming regulations, the rising crime rate, and the plight of problem gamblers. Now, nearly four years after the "casino experiment" began, it is clear that the casino industry has made a profound and permanent impact on Atlantic City. What may be even more interesting, however, is that Atlantic City has had an equally profound impact on certain principles of casino marketing and operation. For in the unique casino marketing situation that Atlantic City presents, traditional distinctions between types of casinos blur, and a hybrid casino is born—a casino that caters equally to high-rolling junketeers and slot-playing bus riders.

The impact of casino gambling on Atlantic City and its environs is well documented.[1] In 1980 the casinos paid more than $68 million (in 1981, $86.5 million) in Gross Revenue Tax to reduce the financial burdens of eligible senior citizens and disabled residents of New Jersey and more than $56 million in property, corporate, and luxury taxes. While the population of Atlantic City itself declined, the population of Atlantic County increased by 21% between 1970 and 1980, while the population of New Jersey increased by only 2.7%. Casinos employ more than 31 thousand people, and casino payrolls average about $1 million per week. The number of visitors to Atlantic City has risen sharply between 1978 and 1980: charter bus activity rose from 29,669 vehicles to 129,390 during the period; figures for 1981 show still another sharp increase in ridership. Property values in Atlantic City have nearly quadrupled between 1978 and 1980. On the negative side, there is no doubt that many long-time residents of the city have been forced to leave because of the rising rents or the converting of residential properties into commercial or investment holdings. Furthermore, the rates of both violent and non-violent crime in Atlantic City have risen at a pace much swifter than that for the state as a whole. But the economic impact is so overwhelming that even though new construction has virtually ceased casino gambling will be a fact of Atlantic City life in the years to come, for better or worse.

From that first day in May 1978, when Resorts opened its casino to the curious and eager throngs, to the present time when nine casinos must *compete* for players, the image touted in the rebuilding of the faded "Queen of Resorts" has been one of *class.* Constrained by the limitations of gridiron city lots and a plethora of building codes and gaming regulations, architects and interior designers have created an interesting variety of interior spaces and a collection of facades for the new or remodeled hotels ranging from the classic Claridge to the deco-echo dazzle of Caesars. The Boardwalk and street entrances to the hotel-casinos (none of which, incidentally, opens directly to the gaming floor) contrast sharply to Las Vegas' gaudy arcade of Glitter Gulch, and after 6:00 p.m., players are dress-coded into keeping up the appearance of sophistication. Moreover, controversial table-minimum policies keep most Atlantic City card players and crap shooters gambling at significantly higher stakes than tourists at other U.S. gaming resorts. Shopping arcades in casino-hotels provide shops and services that are a far cry from Boardwalk stands, and a smoother but no less vigorous hustle is applied to the crowds of visitors. However, in spite of several indicators pointing to affluence and high-rolling action, Atlantic City earns much of its bread and butter from the seemingly endless

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procession of day-trippers bussed from nearby population centers such as Philadelphia and New York City.

### "Premium" or "Grind"

Traditionally, gaming establishments have been characterized as either "premium" or "grind" houses—or in the earlier parlance, "carpet" or "sawdust" joints.[2] For while virtually all major casinos share common elements and essentially the same games of chance, each is characterized by a particular variation of the "eat, drink, be merry," and gamble theme which help to cultivate a particular player-clientele. Modern casino marketing requires a careful analysis of the types of visitors likely to play at a given casino. Once the hypothetical customers are defined, everything from the architecture, decor, types of restaurants, and variety of entertainment to the ratio and distribution of games creates an ambience that the house hopes will satisfy the market. In every case, the individual player-client is attracted, courted, and caressed to the extent that even a *loser* feels good about his gaming experience. Casinos operating on the grind principle cater to volume traffic. Management expects most of the market to be derived from locals or day-trippers who would not demand extensive hotel or shopping facilities, or from tour groups who would be most interested in economical dining and accommodations. Such casinos frequently offer discount coupons, "match play" incentives, inexpensive food, prize drawings, and other shills to attract patrons. Most grind joints emphasize slot machine play, sometimes offering bonus prizes such as automobiles, while keeping table game stakes at modest levels. The general idea is to give low limit players more action for their money while attracting vast numbers of players to the casino. Premium casinos do not actually discourage volume traffic, but their emphasis on table games, usually with higher minimum wagers, frequently discourages players with short bankrolls. For customers who are willing to pay the price, or those who play at stakes appropriate for "comps," these establishments offer unmatched service, luxurious accommodations, splendid and expensive shops, and elegant surroundings—in short, pleasures that once were reserved for nobility. What premium houses may lose in volume, they make up in "quality" play from high-rollers who may stay for several days at a time and gamble large sums of money.

When Ben Siegel opened the Flamingo Hotel in Las Vegas in 1946, he discovered the perils and pleasures of operating a premium establishment in a locale used to grind houses. Locals were alienated by his tuxedoed dealers and the mandate that male patrons remove their hats in the casino. Even among affluent visitors to Las Vegas, top notch food and entertainment alone could not ensure a steady clientele without appropriate hotel facilities to accommodate guests (in fact, Siegel closed the casino after it had been open for several weeks, only to stage a grand re-opening when the hotel was completed.) Chartered planes were used to fly in invited guests and members of the press, and during his last desperate days operating the casino, special prizes and promotions helped to drum up volume trade. However, it was not until years after Siegel's death that the Flamingo, with more than 200 hotel rooms, became a pace setter in the Las Vegas boom of the 1950s.

Typically, the major luxury hotel-casinos in Las Vegas and elsewhere have a balance between the size of the hotel and the extent of the gambling facilities. When the MGM Grand Hotel (Las Vegas) opened in 1973 at a cost of over $100 million, it boasted 2100 guest rooms and the largest casino facility available. Further, it offered a complete shopping arcade, two large showrooms, and a jai alai fronton. Resorts International, the first and largest casino-hotel in Atlantic City, offers an interesting comparison:

| | MGM (1974) | Resorts (1981) |
|---|---|---|
| Hotel Rooms | 2100 | 723 |
| Slot Machines | 930 | 1676 |
| Blackjack Tables | 61 | 83 |
| Crap Tables | 10 | 20 |
| Roulette Wheels | 6 | 13 |
| Big 6 Wheels | 3 | 4 |
| Baccarat Tables | 3 | 3 |

Both establishments offer a complement of restaurants (coffee shops to gourmet rooms), superstar and revue entertainment, convention facilities, and a variety of shops. But whereas the MGM Grand relies on keeping its rooms at nearly 100% occupancy to fill its casino, Resorts International receives thousands of bus patrons per day.

Within the casino environment itself, other characteristics of premium and grind establishments emerge. As noted before, premium houses emphasize table play, with the most revenue produced by twenty-one, craps, and baccarat, while grind houses favor slot volume, notably the play at 25¢ and $1 machines. Examination of the ratio of table games to slot machines, the distribution of the various table games, and the number of the varieties of slot machines may serve to distinguish premium and grind establishments. Further, the volume of play (and the amount of revenue generated by the various games) will indicate how "successful" the house is in satisfying the desires of its clientele. The figures below indicate the number of table games compared to the number of slot machines for the nine Atlantic City casinos at the end of 1981:

| | Resorts | Caesars | Bally | Sands | Harrah's |
|---|---|---|---|---|---|
| GAMES | 123 | 106 | 129 | 74 | 116 |
| SLOTS | 1676 | 1358 | 1598 | 855 | 1130 |

| | Nugget | Playboy | Claridge | Tropicana |
|---|---|---|---|---|
| GAMES | 94 | 121 | 73 | 116 |
| SLOTS | 1200 | 1203 | 850 | 1389 |

The distribution of the various games and machine denominations breaks down as follows:

|  | Resorts | Caesars | Bally | Sands | Harrah's | Nugget | Playboy | Claridge | Tropicana |
|---|---|---|---|---|---|---|---|---|---|
| "21" | 283 | 65 | 88 | 48 | 80 | 62 | 81 | 48 | 76 |
| Craps | 20 | 22 | 22 | 14 | 18 | 14 | 18 | 13 | 18 |
| Roulette | 13 | 12 | 12 | 8 | 12 | 12 | 16 | 8 | 16 |
| Big Six | 4 | 4 | 4 | 2 | 4 | 4 | 3 | 2 | 4 |
| Baccarat | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 2 |
| 5¢ Slot | 94 | 100 | 113 | 83 | 59 | 62 | 68 | 65 | 70 |
| 25¢ Slot | 1090 | 758 | 1132 | 498 | 843 | 826 | 840 | 601 | 903 |
| $1 Slot | 363 | 181 | 145 | 107 | 208 | 173 | 109 | 88 | 120 |
| Other Slot | 129 | 319 | 198 | 117 | 220 | 139 | 186 | 96 | 296 |

Conclusions that may be drawn from the above data can be summarized as follows: Casinos with the highest percentage of table games vs. slot machines *may* be targeted at a premium clientele; those with a greater proportion of slot machines may be targeted toward grind customers. However, in order to gain a more accurate perspective on the above distribution, some indication of the relative popularity and profitability of the devices should be noted. In Table 1 are the 1981 figures for the DROP or HANDLE for each game or device as a percent of the total DROP and HANDLE combined. The WIN for each device as a percent of the combined GROSS REVENUE is given in parenthesis.

The pattern of action that emerges from Table 1 seems clear. In certain casinos—notably Caesars and The Sands—the table games generate a significantly higher drop and win than do the slot machines while at others—particularly Harrah's—the higher drop and win are generated by the slot action. The first two may thus earn the designation "premium," the latter may be called "grind." (It may be interesting to add here that Caesars and The Sands offer "superstar" entertainment, while the remaining establishments, except for Resorts, usually offer only revues.) In the case of others—Resorts, Bally, and Golden Nugget—we find an almost even split between slot and table volume. These houses may be designated "premium-grind" establishments, an Atlantic City phenomenon in which the casino *must* generate half its revenue from slot machines.

A closer examination of Table 1 reveals an interesting set of corroborating data, further distinguishing the premium and the grind houses while setting the premium-grind hybrid squarely in the middle. Accepting the universal (though waning?) popularity of twenty-one, and choosing craps and baccarat as representative "premium" table games, we find that during 1981, Caesars Boardwalk Regency tallied 33% of its volume (33% of its gross revenue) from these two games. The same games at Harrah's account for only 12% of the drop (17% of the win). On the other hand, the 25¢ slot machine—the most popular denomination in Atlantic City[3]—generated 30% of the handle at Harrah's (26% of the win), while totaling only 21% of the handle (20% of the win) at Caesars. Bally's Park Place and The Golden Nugget, premium-grind casinos, each generated 22% of total drop from craps and baccarat (22% and 23% win respectively) while their quarter slots drew 31% handle (29% and 28% respectively). Almost every casino added to its slot complement during 1981, emphasizing the 25¢ denomination—even at the "expense" of dollar machines[4]—thus underscoring the importance of this gaming device to Atlantic City casinos. Additionally, several houses added a significant percentage to their table complement, with The Sands and Playboy increasing the number of crap tables by 40% during 1981.[5] Thus, we find that some casinos, notably The Sands, are taking measures to cultivate a "premium" image, while others are seeking to balance their table and machine varieties to maintain a balanced, or premium-grind, volume.

Using the data presented above, noting the relative importance of "premium" table games versus the quarter slot machines, and comparing the volume of table play to the

TABLE 1

**Percent of Drop and Handle (Percent of Gross Revenue)**

|  | Resorts | Caesars | Bally | Sands | Harrah's | Nugget | Playboy | Claridge | Tropicana |
|---|---|---|---|---|---|---|---|---|---|
| "21" | 25 (25) | 27 (26) | 24 (24) | 30 (29) | 20 (25) | 27 (28) | 27 (31) | 25 (25) | 29 (30) |
| Craps | 18 (20) | 26 (24) | 19 (20) | 22 (22) | 11 (15) | 18 (20) | 20 (20) | 16 (17) | 18 (20) |
| Roulette | 3 (5) | 3 (5) | 2 (4) | 3 (6) | 3 (5) | 3 (5) | 5 (6) | 3 (5) | 4 (7) |
| Big Six | 1 (2) | 1 (1) | 1 (2) | 1 (2) | 1 (2) | 1 (2) | 1 (1) | 1 (1) | 1 (2) |
| Baccarat | 3 (3) | 7 (9) | 3 (2) | 3 (3) | 1 (2) | 4 (3) | 4 (5) | 3 (5) | 4 (4) |
| 5¢ Slot | 2 (2) | 1 (1) | 2 (2) | 2 (2) | 2 (2) | 2 (1) | 1 (1) | 2 (2) | 2 (2) |
| 25¢ Slot | 27 (26) | 21 (20) | 31 (29) | 26 (26) | 30 (26) | 31 (28) | 28 (26) | 35 (33) | 22 (23) |
| $1 Slot | 16 (12) | 5 (5) | 13 (12) | 5 (5) | 17 (15) | 7 (6) | 5 (4) | 7 (6) | 7 (4) |
| Other Slot | 6 (5) | 10 (7) | 5 (5) | 7 (5) | 17 (9) | 7 (6) | 9 (6) | 7 (5) | 13 (9) |
| Tables | 49 (55) | 63 (66) | 49 (53) | 59 (62) | 35 (49) | 53 (58) | 57 (62) | 48 (54) | 55 (63) |
| Slots | 51 (45) | 37 (34) | 51 (47) | 41 (38) | 65 (51) | 47 (42) | 43 (38) | 52 (46) | 45 (37) |

volume of slot play at each Atlantic City casino,[6] the following tentative classification of the nine casinos can be seen:

**Premium:**

| | |
|---|---|
| Caesars Boardwalk Regency | Both hotels use an aggressive market approach to attract high-roller and middle-of-the-road patronage. Each offers headliner shows and presents a variety of special events for invited guests. The Sands has made an obvious "premium" decision for the second-smallest casino floor in Atlantic City. |
| The Sands (formerly the Brighton) | |

**Grind:**

| | |
|---|---|
| Harrah's Marina | Harrah's most clearly fits the definition of a grind house, though occasionally it will offer superstar entertainment for special weekends. Slot volume is overwhelming. While the Claridge's overall volume is more evenly distributed, the 25¢ slot machines had the *highest* ratio of play in Atlantic City during 1981. |
| The Claridge | |

**Premium-Grind:**

| | |
|---|---|
| Resorts International | These establishments display the most consistent balance between slot and table play. Resorts emphasizes superstar shows, while Bally's, Golden Nugget, and Playboy have revues. |
| Bally's Park Place | |
| The Golden Nugget | |
| Playboy** | **Playboy's percentages tend to favor table games, but logistic problems regarding second and third level slot machines might influence the figures. The data on the Tropicana do not seem sufficient to justify another placement. |
| Tropicana** | |

These classifications reflect *trends* in the volume of play, and, in some cases, they may reflect conscious efforts on the part of management to cultivate a particular image.

### Minimums Except the Casino

Obviously, the Atlantic City casinos are not in the business of manufacturing images for their own sake; like other corporations, they must be competitive in the marketplace and show a profit. Ralph Delligatti, former Director of Casino Marketing at Playboy, notes, "You need so many things to make a place work in Atlantic City. You can't survive on just one segment of the market."[7] That market can be segmented into roughly three categories of players. At one end of the scale is the high-roller, a customer who probably has a line of credit at one or more casinos and who is a veteran player at other gaming resorts. His needs and expectations will be very different from those of the slot machine player who visits the casino out of curiosity or who comes on a bus tour with a specific sum of money budgeted for play. Between these two extremes is what Delligatti calls the "backbone" of any gambling operation, the middle-of-the-road player. This customer may or may not have a line of credit and will usually play somewhere between $500 and $2,000 per visit. And while any gambling operation reaches essentially the same market, the Atlantic City situation poses some special problems, as Delligatti observes. "The biggest problem here is that every hotel that came in did what they had to do to get open as far as the minimums, except for the casinos. The least amount of rooms, restaurants, everything that the [Casino Control] Commission demanded. Then they put the largest casino they could possibly fit into the facility. You have a casino that deserves 2500 rooms, but you don't have them. You can't get the players on a consistent basis because you have to have them staying with you." It is a fact that eight out of the nine operating casinos offer barely more than the minimum 500 rooms required for an Atlantic City casino-hotel.[8] With competition feverish, and likely to become even more intense, the casinos must continue to attract patrons in numbers several times greater than the guest rooms will accommodate, and these players must come from all segments of the market. Atlantic City casinos must satisfy *all* varieties of gamblers if they are to survive.

### "Comps," Assorted "Freebies" and a VIP Super Bus

Marketing strategies for these casinos follow traditional casino marketing techniques and create several new twists to attract patrons. The gambling market in New Jersey has passed through several "stages" as the demand and availability changed. As might be expected, each hotel chooses strategies that seem to work for the competition, though ideally each marketing executive would like to be first with a new winning strategy. When Resorts had the only game in town during the summer of 1978, the only "marketing" problem was one of security and crowd control. Lines of people four or five abreast waited on the Boardwalk for hours before being admitted, and once a patron got inside his most lucky break of the day might be finding a spot to play! But as each new casino opened, patrons began to choose their casino, and the market was shared even though it continued to grow. Now, hotel-casinos tend to use promotions similar to those of the competition even if, at first, they are not immediately profitable. Nevertheless, within the similar marketing and promotion framework, each house tries to establish an individual identity to outshine the competition.

The most conventional strategies have been used to attract high-roller patronage. Premium customers seemed skeptical about Atlantic City at first; "comps," including transportation expenses and deluxe accommodations, seemed far easier to obtain in Las Vegas and elsewhere than in Atlantic City during the first gambling season. However, with Caesars opening in June 1979 and as each new house came on line, more and more special treatment was afforded to preferred customers. Special events, such as the always-popular boxing matches, tennis tournaments, and celebrity cocktail parties, were open to "invited guests"; and now virtually every casino must plan several such attractions per year. Playboy claims to have brought the first charter jet of junketeers to Atlantic City in the spring of 1981, and now other casinos have begun to use this traditional marketing tool. Casino credit applications frequently ask customers to list their favorite activities, sports, brand of liquor, and, of course, their preferred gambling tables; and if the player's line is sufficient and if his action warrants, he is treated to the best the hotel can offer. But the most consistently used privileges are in-house "comps" and the extension of credit to qualified players.

Credit card action is a significant measure of how successful a house is in attracting premium clientele. Virtually all credit play occurs at gaming tables, and the extent to which the casino uses credit may provide an additional measure of its "premium" or "grind" status. The figures below are from the 1981 annual report to the Casino Control Commission.

| Hotel | Credit Issued | "Returned Checks" | % Credit/ Table Drop |
|---|---|---|---|
| Resorts | $154,167,391 | $ 4,286,614 (2.8%) | 26% |
| Caesars | 293,855,072 | 11,981,653 (4.1%) | 38% |
| Bally | 195,560,313 | 14,137,942 (7.2%) | 32% |
| Sands | 124,968,826 | 2,252,600 (1.8%) | 36% |
| Harrah's | 59,879,455 | 1,377,617 (2.3%) | 19% |
| Golden Nugget | 103,617,800 | 3,143,000 (3.0%) | 20% |
| Playboy | 93,418,801 | 1,196,897 (1.3%) | 27% |
| Claridge | 14,376,003 | 298,070 (1.3%) | 13% |
| Tropicana | 5,226,700 | 23,970*(0.5%)* | 14% |

*The Tropicana opened 11/26/81 and the totals are reported as of 12/31/81

Caesars continues to be the most generous casino in the extension of credit to players, with 38% of its table action on markers. The new management at the Sands has also aggressively sought credit players since taking over in June 1981. There is no question that markers inflate the volume of table play and the amount of revenue generated: Caesars registered a drop of $768,365,785 and revenue of $127,877,376 compared to Bally's (the closest competitor) $612,546,308 and $98,657,288 respectively. It is also clear that the percentage of "bad paper" is highest at these two casinos. However, it is significant that the Sands' aggressive credit policy is tight enough to keep its percentage of returned checks among the lowest in Atlantic City.[9]

In 1981 casino "comps" were used extensively in Atlantic City houses. Premium players have become accustomed to special treatment, and the casinos obliged as seen below.

| Casino | Casino Comps | Comps as % of Table Revenue |
|---|---|---|
| Resorts | $23,377,926 | 22.5% |
| Caesars | 26,368,035 | 20.6% |
| Bally | 17,904,954 | 18.1% |
| Sands | 11,275,410 | 19.8% |
| Harrah's | 11,095,655 | 16.0% |
| Golden Nugget | 19,938,409 | 21.7% |
| Playboy (4/10) | 13,120,184 | 22.5% |
| Claridge (7/20) | 2,992,572 | 17.0% |
| Tropicana (11/26) | 819,026 | 12,0% |

Room, food, beverage, travel, and special gifts are among the lures offered in casino comp programs. The tightening of comp and travel reimbursement policies at the premium Las Vegas casinos has had a beneficial effect on the volume of premium traffic to Atlantic City, and reports indicate that many customers who would not have previously visited the resort, did so, were pleased with the service, and have become regular patrons.[10]

However, since approximately half of Atlantic City's gambling revenue is generated by slot machine action, each casino must make some effort to cultivate slot players. Bus programs, whether "charter" (the hotel arranges or leases busses) or "line" (the carrier charges a fare and organizes tours), are the standard marketing tool in this area. Such programs may not always be as cost effective as other promotional tools, but they do offer visibility and generate floor traffic. As Delligatti remarks, "We must spend money in that area [bus programs]. The other casinos are doing it, and Playboy brings in about 100 busses per day, 80 to 90 thousand people per month."

Typically, an Atlantic City bus program operates as follows: The casino and/or the tour operator advertises (usually in newspapers) regularly scheduled departures from population centers to the specific casino. The greater New York City and Philadelphia areas are two primary targets. The carrier charges a modest sum (usually between $9 and $11 from the Philadelphia area) for transportation to and from the casino. Riders are given approximately six hours to stay in Atlantic City. Upon arrival at the host casino, bus patrons are "given" cash, usually $10 in quarters (though during the peak summer season, $5 was the standard), a voucher for food credit or for a buffet, or a show ticket (a revue performance). Hotels juggle the ratio of cash vs. food/entertainment credit to make individual programs "different," but the result is that a bus patron usually receives nearly all his fare in casino "freebies." During the most aggressive bus promotions in the 1980-81 winter season, it was possible for a shrewd bus rider to get more in refunds than he spent on his fare. Some hotels will add extras to the standard promotion: Playboy offers a "Bunny Bag" for the patron's winnings and a souvenir logo pin; the Claridge offers an extra $5 voucher to be used on a return visit. The end result of such programs is that the slot machines, particularly the quarter slots, stay busy most of the day. The following is a representative list indicating the costs and numbers of patrons served by casino bus programs during 1981.

**Examples of Bus Program Costs**

| Casino | Amount of Service | Number of Persons |
|---|---|---|
| Bally | $8,347,000 | not reported |
| Golden Nugget | 7,957,755 | 801,568 |
| Sands | 7,578,486 | 885,307 |
| Playboy | 5,187,046 | 721,905 |
| Claridge | 2,508,930 | 244,070 |

Slot machine play requires the casino to be sensitive to even more player demands. Harrah's began a trend in Atlantic City by offering complimentary cocktails in the slot pits when table players in other casinos sometimes found it difficult to get service. Other casinos followed suit, with Playboy boasting that *bunnies* served the cocktails! Bally introduced the pregressive slot machine to Atlantic City, and now each house has banks of linked progressives offering substantial jackpots. Bally also tried a unique slot promotion during the winter of 1980-81. Once an hour an announcement would be made that any slot jackpot won during the designated time interval (a minute) would be *doubled* by the house! The Sands offers "spot cash," choosing a lucky slot player's station every hour for an immediate cash award and a chance at thousands of dollars in prizes. Finally, Playboy—the only three-level casino in town—determined that the machines located on the second and third levels did not receive enough play, and redistributed many slots to the first level. Table players, it seemed, would venture upstairs; slot players would not. Unquestionably, then, casinos in Atlantic City consider low-rollers important, and even if the slot promotions are seen as a necessary inconvenience, they are essential to the success of a casino. Drawings for automobiles, "whirlwinds of money," "spot cash" drawings, and other gimmicks aim not only at attracting slot players to the various casinos but also at keeping them on the premises for the duration of their visit.

Middle-of-the-road gamblers have not been ignored by the Atlantic City casinos, especially if the players have (and use) a line of credit. A promotion that was used extensively by Caesars in 1980 was the VIP Super Bus. Patrons willing to put up $500 in front money (or those with a credit line of $1000 or more) were given a free ride to Atlantic City on a bus designed to seat 20 people in swivel chairs or on couches. Bar service, snacks, and playing cards were provided by a hostess during the journey to the casino and back to the point of departure. At the casino, players were given a meal, usually a buffet, but at least some groups were treated to dinner in the steak house. After dinner, these VIPs were given time in the casino, identified with special badges so that floor personnel could monitor their play. Other hotels offered similar programs until mid-1981 when the programs were discontinued.

Additionally customers with a line of credit and an active card can expect to receive invitations to special events, usually during the slack season. Depending on the type of seating and quality of event, players see boxing and wrestling matches, tennis matches, and large-screen broadcasts of championship events. Cocktail receptions with heavy hors d'oeuvres frequently are a part of such events, giving the modest bettor a taste of high-roller life. One interesting variation of this promotion took place in Atlantic City during the fall 1981 season. Monday nights during football season were traditionally the slowest casino nights. Some casinos decided not to compete against pro-football; instead they used it as a promotional gimmick. The Sands, for instance, sent its cardholders a "season pass" and invitation to join ex-Baltimore Colt Jimmy Orr for Monday Night Football on the big screen in the Gallery Lounge. Complimentary food and beverages were provided as well as score cards to pick the winner of that night's game and the winners of the following Sunday's contests. Prizes were awarded to all in attendance who picked the winner on Monday, and every correct pick on the card entitled the patron to a chance for a trip to the Super Bowl. Gaming tournaments are now part of the Atlantic City scene. The Sands has offered the "World Championship of Casino Games"—a tournament run by the hotel with no entry fee (only a $2000 buy-in) in which players compete in blackjack, craps, roulette, and baccarat. Resorts has offered tournaments in blackjack and craps run by International Gaming Promotions.

Middle-of-the-road bettors can expect limited "comps" if they play. Valet parking can be "comped" with relative ease, and meals in the coffee shop of the host casino may be had. The Sands embarked on a particularly aggressive promotion to all credit customers when the new management took over the Brighton in 1981. Established customers, even those with minimum lines, were invited to summer events, such as boxing matches and billiard tournaments. Between September and November, players were offered their choice of selected headliner shows in the Sands showroom—reservations for two with two cocktails on the house! Throughout the winter, shows and cocktail receptions were offered almost weekly. One could question the cost-effectiveness of such generosity; however, there is no doubt that the Sands was trying to boost its table play (the earlier figures show the drop/win pointing decidedly in a "premium" direction). Apparently the philosophy has paid off since the 1981 figures show the Sands improving its net income since the new management team took over. It was one of only three casinos to show a net win for the fourth quarter of 1981.

Gamblers in their own sphere, Tom Stanley, now vice president for marketing with the Sands in Las Vegas, and the marketing staff at the Sands obviously believed in priming the pump—they had to spend money to make money.[11]

The question remains, how profitable are these marketing strategies? What is the correct mix for the Atlantic City market? What is the most reasonable course of development in the future? Income totals for 1981 appear below:

**Casino Department Income**

| Casino | Income | % Table Revenue | % Slot Revenue |
|---|---|---|---|
| Bally | $106,567,703 | 53 | 47 |
| Resorts | 95,748,952 | 55 | 45 |
| Caesars | 87,919,414 | 66 | 34 |
| Golden Nugget | 80,613,572 | 58 | 42 |
| Harrah's | 71,795,598 | 49 | 51 |
| Sands | 36,697,459 | 62 | 38 |
| Playboy (4/10) | 33,230,125 | 62 | 38 |
| Claridge (7/20) | 16,637,443 | 54 | 46 |
| Tropicana (11/26) | 5,574,123 | 63 | 37 |

The above data suggest that Resorts, Caesars, and Bally—the first three casinos—continue to dominate Atlantic City gaming. The Golden Nugget appears to be the strongest new casino. Caesars continues to emphasize table games, tallying more than 60% of its drop/handle and win from table games (higher than any other Atlantic City casino). Similarly, Harrah's continues to be more active and profitable in its slot pits. Playboy seems to emphasize its table games, but this conclusion could be influenced by the problem of second- and third-level slot machines losing volume because of their location. The Sands, under its new management team is trying vigorously to carve out an identity as a first-class operation in order to overcome the stigma of changing hands after being open for less than a year. (Promotional brochures mailed to credit customers at *other* casinos announced the superstar entertainment policy and boasted that "you'll find the big-game, high stakes excitement you've enjoyed at the very best casinos in the world.") Finally, three of the four top revenue-producers (1981) (Resorts, Bally, and Golden Nugget) are the three casinos described earlier as best fitting the premium-grind hybrid.

## CONCLUSION

It is abundantly clear that slot machines, especially the quarter slots, are a prominent fact of casino life in Atlantic City. We may expect to see casinos continue an aggressive slot promotion program. Ralph Delligatti of Playboy remarked that while the table volume and win looked respectable for a relatively new casino, some concern was expressed over the slot volume—ideally it should conform to the Atlantic City standard of producing nearly half the casino revenue.

Market identity seems to be an important concept in Atlantic City—the casinos try to build an image or recognition factor among players at all levels. At the top of the scale, several houses are aggressively promoting junkets, concentrating on cities east of the Mississippi and offering players more for their action than competing casinos in Nevada.[12] For all players, Playboy has its bunnies, the Sands its showroom, Harrah's its marina location. One can reasonably expect the competition for the middle-of-the-road player to continue, as each house tries to enlist a cadre of "regular" table patrons to complement the throngs of slot players. It is possible that at this time, a moderate bettor may actually get a good deal for his money in Atlantic City—something that was not the case when the casino experiment began.

Finally, it seems clear that the premium-grind is not only present in Atlantic City—it is the way for the majority of houses to generate profits. In many ways, an individual casino has no choice—if the competition is engaged in a promotion that seems to be drawing patrons, a casino must counter with an equally effective plan, even if it is the same strategy. The question for the future to answer is whether the premium-grind will offer enough flavor to the consumer to keep his appetite hearty in the years to come.

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*NOTES*

[1] See, for example, "Casino Impact," *Atlantic City Magazine*, (5 August 1981), pp. 74-79. The summary data on Atlantic City are derived from this article.

[2] Bill Friedman, Casino Management "Secaucus," N.J.: Lyle Stuart, Inc.), 1974. Especially relevant material may be found on pp. 21-25.

[3] The *Nevada Gaming Abstract* for Fiscal Year 1980 gives the percent of casino revenue produced by various games and devices in the casinos, averaged from all gambling in the state. Selected data are given here:

| Game/Device | % of total revenue |
|---|---|
| "21" | 30.2% |
| Craps | 17.7% |
| Roulette | 3.4% |
| Other Table Games | 8.0% |
| 5¢ Slots | 5.8% |
| 25¢ Slots | 8.9% |
| $1 Slots | 16.4% |

Comparing these figures with the Atlantic City data noted in Table 1 reveals that blackjack seems to earn less in New Jersey, on the average; but the craps win is similar. However, in slot machine play, the popularity of quarter slots is remarkable by comparison, and the dollar machines are significantly less popular in New Jersey.

[4] Between February and July of 1981, several casinos made adjustments in their slot complement. These changes are noted in the monthly reports to the gaming commission. Note, for instance, the changes at Resorts and the Sands.

| Casino | 25¢ Slots (Feb.) July | $1 Slots (Feb.) July |
|---|---|---|
| Resorts | (1019) 1118 | (486) 308 |
| Caesars | (806) 755 | (154) 161 |
| Bally | (1135) 1176 | (190) 171 |
| Sands | (439) 498 | (229) 107 |
| Harrah's | (437) 627 | (207) 212 |
| Golden Nugget | (784) 784 | (158) 174 |

[5] Again, choosing February as a representative winter month and July as a representative summer month, following are the changes in the table complement: (Feb.) July

| Casino | "21" | Craps | Roulette | Big Six | Baccarat |
|---|---|---|---|---|---|
| Resorts | (82) 82 | (20) 20 | (14) 14 | (4) 4 | (3) 3 |
| Caesars | (65) 65 | (22) 22 | (12) 12 | (4) 4 | (3) 3 |
| Bally | (88) 90 | (20) 22 | (12) 12 | (6) 4 | (3) 3 |
| Sands | (49) 48 | (10) 14 | (7) 8 | (4) 2 | (2) 2 |
| Harrah's | (81) 80 | (12) 18 | (12) 12 | (4) 4 | (2) 2 |
| Golden Nugget | (70) 62 | (10) 14 | (10) 12 | (4) 4 | (2) 2 |
| Playboy* | (51) 81 | (14) 20 | (11) 16 | (2) 3 | (3) 3 |

**Playboy figures are from April to July, 1981*

[6] Dividing the volume of table play by the volume of slot play (Drop/Handle), we obtain an index of game appeal, with an even distribution being 1.0: the higher the index, the more table volume; the lower the index, the more slot volume.

| Casino | Drop/Handle 1980 | Drop/Handle 1981 |
|---|---|---|
| Resorts | .96 | .98 |
| Caesars | 1.53 | 1.67 |
| Bally | 1.03 | .96 |
| Sands (Brighton) | 1.21 | 1.46 |
| Harrah's | .87 | .54 |
| Golden Nugget | 1.19 | 1.16 |
| Playboy | --- | 1.32 |
| Claridge | --- | .94 |
| Tropicana | --- | 1.24 |

The greater the index, the more likely the house caters to "premium" bettors; the lower the index, the more the house caters to "grind" trade. A comparison over the past two years shows a strengthening of the trends. Caesars and the Sands are solidifying a "premium" clientele; Harrah's is moving even more in the "grind" direction. Resorts, Bally, and The Golden Nugget are firmly planted in the "premium-grind" category.

[7] Interview with Ralph Delligatti, 29 September 1981.

[8] Room complements for the Atlantic City casino-hotels appear below:

| Casino | Rooms | Casino Size (sq. ft.) |
|---|---|---|
| Resorts | 725 | 60,000 |
| Caesars | 507 | 48,630 |
| Bally | 512 | 60,000 |
| Sands | 504 | 33,000 |
| Harrah's | 506 | 44,090 |
| Golden Nugget | 541 | 40,805 |
| Playboy | 500 | 50,000 |
| Claridge | 504 | 30,000 |
| Tropicana | 521 | not available |

*Below appears the credit distribution for 1980.

| Casino | Credit Issued | Returned Checks |
|---|---|---|
| Resorts | $129,933,025 | $ 4,766,390 (4%) |
| Caesars | 247,617,560 | 17,177,995 (7%) |
| Bally | 205,911,640 | 11,884,539 (6%) |
| Brighton (8/13) | 3,604,900 | 415,300 (12%) |
| Harrah's (11/23) | 600,309 | 400 (12%) |
| Golden Nugget (12/13) | 869,550 | |

It is apparent that the casinos have had greater success in collecting counter checks in 1981, with the Sands showing remarkable performance compared to the Brighton. Caesars also showed a considerable reduction in the amount of "bad paper." The three leading casinos showed a reduction in the amount of credit extended. This reduction may be a result of tightened credit requirements and/or a more competitite market.

[10] Interview with Ralph Delligatti, 29 September 1981.

[11] Quarterly reports for the Sands (1981) show the following improvement in performance:

| | |
|---|---|
| 1st quarter | $6,408,309 loss |
| 2nd quarter | 4,103,639 loss |
| 3rd quarter | 4,240,523 profit |
| 4th quarter | 365,923 profit |

Only Caesars and Resorts recorded profits for the 4th quarter 1981 ($4,022,732 and $2,596,641 respectively) while industry figures for the same period show a total loss of $55,715,233.

Further, the Sands reported spending $7,858,154 on marketing in 1981, compared to $1,366,488 in 1980 when it was The Brighton. Its marketing expenses were second only to Resorts ($10,155,080).

[12] Playboy, for example, reported spending $2,802,506 in junket fees during 1981.

# The Evolution of Corporate Gambling in Nevada

by William R. Eadington*

*After tracing the development of Nevada's casino industry since the end of World War II and pinpointing causes of observed changes, the author concludes that in spite of recent setbacks, the image and perceived integrity of the casino gaming industry have improved since the mid-1960's. This article is an update of a paper presented by the author at the Fifth National Conference on Gambling and Risk Taking at Stateline, Nevada, in October, 1981.*

Over the past three decades, the structure, nature of operations, and image of the legal casino gaming industry in Nevada have undergone substantial change. The major underlying factors bringing this about have been political and economic in nature, revolving around the imperatives of expansion and growth within the industry, and reactions to external threats aimed at the existing structure of regulatory controls administered by the State of Nevada. The external threats have come primarily from the Federal government.

It is the purpose of this study to explain the major forces and incidents that have altered Nevada's casino industry since World War II and to chronicle some of the major incidents that have brought about the changes. The fundamental thesis is as follows: the casino gaming industry, especially since the 1950's, has been characterized by high profits and strong growth potential. Gambling also has become the major "export" or base industry for the State of Nevada, and therefore the economic health and growth of the state has been closely related to the economic performance of the gaming and tourism industry. However, for various reasons, the gaming industry has been perceived as less than "legitimate" by the general public and in particular by financial institutions. This has limited the industry's access to capital markets for expansion purposes, and has forced casino operations to look to less orthodox and often less legitimate sources for financing. Furthermore, allegations and evidence from time to time linking the gaming industry to members of organized crime or others of bad reputation have created situations where the continuing autonomy of the gaming industry and the state's regulatory structure have been threatened.

Therefore, as casino gaming in Nevada has grown and expanded, especially in the 1960's and 1970's, both the industry and the State of Nevada have undertaken efforts to diminish the image of illegitimacy that has threatened the status quo of casino operations and state regulation, and to improve access to orthodox financial capital sources for the industry. In large part, these efforts have been successful, though there have been notable incidents in recent years that have demonstrated that some of the regulatory and operational problems which had marked the early years of Nevada gaming are not easily eradicated.

Part I of this study examines the economic performance and structure of the gaming industry of Nevada at the present time. Part II briefly outlines the regulatory mechanism for Nevada gaming. It also points out some of the more critical areas of regulatory control that have been debated in the state over the past three decades and discusses how these relate to the enlightened self-interest of the gaming industry and the state. Part III covers the early period of modern casino gaming growth, beginning after World War II and continuing until approximately 1966. Part IV deals with the "decade of reform", running from about 1967 to 1977, during which both the legal gaming industry's image and access to financial markets improved substantially. Part V looks at some of the problems which have occurred in the past few years that have set back to some extent the long-term trends toward improving the image of legitimacy and integrity of gaming operations. In the conclusion, certain observations are made on the present and future status of casino gaming in Nevada and in other jurisdictions which may legalize it in the years ahead.

## I. THE ECONOMIC STRUCTURE OF GAMING IN NEVADA

It is partly a historical accident that the gaming industry has become such an integral part of the economic and population base of the State of Nevada. Though Nevada is the seventh largest state in the nation in land mass, with 110,000 square miles, much of the land is effectively uninhabitable due to lack of water and harsh desert climate. As of 1980, there were only four states in the U.S. with smaller populations; 1980 U.S. Census estimates place Nevada's population at about 800,000 persons. In spite of this, Nevada is the eighth most urbanized state in the U.S., with 81% of its residents in the Reno-Sparks and Las Vegas metropolitan areas and about 88% of its population in the counties of Clark, Douglas, Washoe, and Carson City, all of which are primarily dependent on tourist based gaming for their economic livelihood.[1] The gaming industry, and indeed the economies and populations of these areas, could not have expanded so much had it not been for Nevada's proximity to California, with its 22 million residents, the legal status that Nevada has afforded the casino gaming industry since 1931, and the legal prohibitions of casino gambling elsewhere in the U.S.

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Firms in the gaming, recreation and tourism category employ more than 25% of the state's labor force, and state gaming tax collections amount to about 40% of the state's general fund revenues. As California and other Western states have grown in population since World War II, the gaming industry has been able to expand more than proportionately, creating jobs and tax revenues, and thus acting as the major component of the economic and population growth in Nevada.

The main factors influencing the growth in demand for Nevada's gaming and tourism activities have been the population growth in the state's major visitor markets, and the increases in average levels of affluence and increased amounts of leisure time among potential visitors, along with changing moral views toward gambling activities.[2] Furthermore, the variety of activities available in the state's tourist areas has expanded considerably in the past two decades to include high quality entertainment, outdoor recreation, sporting events, conventions and sightseeing opportunities. These other activities often act as excuses for people whose primary motivation to visit Nevada is to gamble. They also provide effective strategies for marketing casino gaming without referring to gambling directly, which is illegal in most states. Thus Las Vegas now bills itself as the "entertainment capitol of the world", and the state attracted upwards of 30 million visitors who contributed $2.5 billion to Nevada's casino operations through gambling losses in 1981.

The industry itself has a number of unique characteristics which have become apparent over the years. First, casino gaming revenues have been highly resilient to changes in the national economic climate. Gross gaming revenues in each of the major tourist destinations in Nevada have been characterized by rapid and consistent growth; there has not been a single year in any of the three main counties (Clark, Douglas, and Washoe) since 1955 where gaming revenues did not increase over the previous year's total. Furthermore, there has been little correlation between gaming revenue growth and national economic conditions.[3]

Gaming industry operations are also characterized by economies of large scale production. Though there are over 1,400 gaming licenses held in the state, the largest 130 operations account for over 95% of gross gaming revenues. The largest 44 operations, which each grossed more than $10 million per year in gaming winnings, accounted for about 80% of the state's gross gaming revenue and more than 90% of the net operating income of casino operations in Nevada in 1980.[4] Larger operations can also offer a greater variety of complementary activities, such as entertainment, restaurants, recreational facilities, and even shopping malls. As a result, such operations can become self-contained vacation destinations and attract the most desirable customers.

Another characteristic which has been important to the industry's growth has been the presence of positive spillover benefits of new casinos and casino expansions on other casinos and businesses in the entire resort area. It would commonly be expected that as the size of an area's gaming and tourism facilities expanded, the profitability of existing firms would be adversely affected. However, with only one major exception (Reno-Sparks in 1978), this has not been the case. Expansion of existing facilities or the addition of new ones has seemed to enhance the appeal of the entire location and to increase the revenues and profitability of all operations in that area. This has created an attitude within the state that the gaming industry can grow substantially larger than its present size, and such growth will provide additional benefits both for the industry and for the state.[5]

Also, a vital economic factor in the gaming industry over the past decade has been the growing importance of casinos and casino-hotel complexes owned by publicly traded corporations. Prior to 1969, such corporations were effectively prohibited from direct involvement in Nevada casino gaming because of state statutes which required the licensing of all owners of a casino. Changes in state law instituted in 1967 and 1969 (discussed in Part IV) modified the licensing requirements for stockholders and corporate managements. As a result, the early 1970's saw a number of public corporations with established reputations entering Nevada gaming, and some Nevada casino operations going public.[6] By fiscal 1980, the 20 largest publicly owned casino operations were generating nearly 50% of the state's gross gaming revenues, 66% of the industry's net operating income, and were employing nearly 50% of all individuals working in the gaming industry in Nevada. The emergence of the public corporation has been an integral part of the evolution of casino gaming in the past decade.

## II. THE REGULATORY STRUCTURE OF GAMING IN NEVADA

The primary mechanism for the regulation of the gaming industry in Nevada is the State Gaming Control Board and the Nevada Gaming Commission.[7] The Control Board is made up of three full-time members appointed by the Governor and has a staff of approximately 250. Its functions are to investigate license applicants for determination of suitability, to police casino operations to ensure the honesty of casino games, to check on customer complaints, to audit casino reports to ensure that gaming winnings are not being "skimmed" and that the state is receiving the full amount of taxes due to it, to collect gaming taxes and fees, and to collect, analyze and publish financial information relating to the gaming industry.[8] The Gaming Control Board will make recommendations on specific cases based on information provided by staff. The recommendations then go to a five member Gaming Commission, which officially has the final say regarding the issuance or revocation of a gambling license. Members of the Gaming Commission are also appointed by the Governor, but unlike the Control Board members, perform their duties on a part-time basis with effectively no financial remuneration.

Because of the close correlation of the economic performance of the gaming industry and the economic health of the state, the objectives of the regulatory structure have largely been to contribute to an economic environment conducive to the continued growth, expansion and prosperity of the gaming industry and to prevent any substantial loss of jurisdiction on regulatory questions. Prior to the 1970's, and to some extent still, both the industry and the regulatory bodies have been concerned about the possibility of the Federal government usurping the state's regulatory function, and then undertaking actions detrimental to the industry and the state. Threats of Federal intervention have always centered around the issue of whether or not the state was effectively preventing members of organized crime or other unsavory characters from participating in casino operations or from sharing in casino profits.

As a result, the state's regulatory functions have been strengthened and altered over the years to improve both the appearance and the reality of stronger controls over the gaming industry.[9] However, this has not always been accomplished easily. The common pattern in Nevada has been for a scandal to break regarding a particular casino operation or operations. Legislation would then be submitted to try to correct the deficiencies in the statutes which allowed the situation to arise in the first place. The gaming industry would then either support or fight the legislation depending on how real the threats of outside intervention were compared to the economic and legal implications of the legislation itself. Because of the commonality of interests of the state and the gaming industry, and because of the economic importance and clout of the gaming industry in the state, it is unlikely any regulatory reforms could be passed without the support of at least a good portion of the gaming industry.

The economic characteristics of the gaming industry and the regulatory structure of the Gaming Control Board and Gaming Commission have played integral roles in the evolution of the state's modern casino gaming industry. In the following three sections, economic imperatives and specific incidents are discussed in terms of how they interact to influence the direction of legislation and regulatory practices in the state. The common theme has been one of control. In general, the gaming industry has wanted to keep the regulatory structure weak and pliable enough for its own interests so that actions taken by the regulators could not significantly affect casino policy or profitability. On the other hand, Gaming Control has had to be strong enough to prevent the kinds of scandals which would indicate to outsiders, specifically the U.S. Department of Justice and financial institutions, that the state was doing a good job in policing and protecting the integrity of casino operations and casino owners.

## III. THE ESTABLISHMENT OF MODERN CASINO GAMBLING: 1946 TO 1966

Although gambling was legalized by the Nevada Legislature in 1931 as a means to tax an existing illegal industry, gaming did not become an important economic factor in the state until after World War II. The first of the modern casino-hotel complexes was the Flamingo on the Las Vegas Strip, built in 1946 by Benjamin "Bugsy" Siegel.[10] After his murder the following year in Beverly Hills, links between Siegel and other infamous underworld characters, such as Meyer Lansky, Lucky Luciano, and Frank Costello, received widespread publicity.

Prior to 1945, the State of Nevada had taken no official interest in the gaming industry. That year, the Legislature passed a gaming revenue tax amounting to 1% of all gambling winnings in excess of $300,000. Jurisdiction over tax collection was given to the Nevada Tax Commission. After the 1947 scandals relating to Siegel, the Legislature gave the Tax Commission the power to investigate the backgrounds of individuals seeking licenses; this followed legislation in 1947 which had given the state the right to issue gaming licenses for the purpose of determining who was liable for gaming taxation. However, in its early years, the Tax Commission was greatly understaffed, and a number of individuals with criminal backgrounds inadvertently were granted licenses.

In 1950, the Special Senate Committee to Investigate Organized Crime in Interstate Commerce (the Kefauver Committee) held hearings throughout the country. With respect to Nevada, it concluded that Nevada gambling operations had been widely infiltrated by individuals with extensive illegal gambling associations or criminal backgrounds in other states. The Committee report stated, "the licensing system which is in effect in the State has not resulted in excluding the undesirables from the State, but has merely served to give their activities a seeming cloak of respectability."[11] The report went on to say "the availability of huge sums of cash and the incentive to control political action result in gamblers and racketeers too often taking part in government. . . Where gambling receives a cloak of respectability through legalization, there is no weapon which can be used to keep the gamblers and their money out of politics. . . As a case history of legalized gambling, Nevada speaks eloquently in the negative."[12]

In 1954, two incidents took place that added credence to the claims made by the Kefauver Committee. Hank Greenspun, editor of the *Las Vegas Sun*, and a reporter, hired an undercover agent to pose as a hoodlum trying to establish a casino in Nevada and "purchase" a gambling license through bribes to public officials and promises of future favors. This "sting" operation was not unlike those recently employed by the FBI in Abscam and other investigations. When the set-up was made public shortly before the 1954 gubernatorial election, it seriously compromised Lieutenant Governor Cliff Jones and challenged the reputation of the Democratic candidate for governor, Vail Pittman, who lost the election to incumbent Charles Russell.[13] The exposé also indicated a number of Las Vegas casinos had official owners who were merely "fronts" for the actual owners, known undesirables or members of organized crime syndicates, and that this situation existed at least with the knowledge of the Lieutenant Governor.[14]

Because of this and other evidence, the Nevada Tax Commission ordered the gaming license of the Thunderbird Casino revoked and the casino closed in early 1955. The Commission claimed the Thunderbird's official owners, Marion Hicks, Cliff Jones and others, were acting as fronts for Jake and Meyer Lansky, and that the Lanskys were sharing in the reported "skimmed" profits of the operation. Though a court injunction prevented the closure of the Thunderbird, the case dragged on for two years and typified the difficulties between effective regulatory controls and the desires of the gaming industry to operate free of constraints.

In the 1953 session of the Legislature, in spite of the bad publicity generated by the Kefauver hearings, Governor Russell complained that he was unable to pass legislation which would provide tough controls to help dispel Nevada's image as a haven for racketeers. However, given the new publicity from the *Sun* exposé and the controversy over the Thunderbird case, regulatory reform was more palatable and legislation was passed in the 1955 legislative session which created the Gaming Control Division under the Nevada Tax Commission and stated licensing was a revocable privilege.[15]

The Thunderbird decision had been appealed by the casino's owners on the basis that the actions of the Nevada Tax Commission were arbitrary. Furthermore, they argued an appeal should allow new evidence rather than only reviewing transcripts of Tax Commission hearings. An appeals court agreed with this position and overturned the license revocation in 1955. The State then appealed to the Nevada Supreme Court. While the Supreme Court was still considering the matter, legislation was introduced in the 1957 Legislature which would make all such appeals "trials de novo," allowing new evidence. This would have effectively destroyed the effectiveness of the Tax Commission as an investigatory board over license holders, and for that reason the bill was strongly opposed by Governor Russell. The bill did have extensive legislative support however, and passed both houses easily. Russell vetoed it with a strong message of how destructive it would be to the state's ability to regulate licensees. After much debate, the veto was sustained in the State Senate by a single vote. The Supreme Court shortly thereafter issued its decision and upheld the Tax Commission's claim that review of gaming decisions should not be done on a trial de novo basis. It did, however, disallow the license revocation on the grounds that insufficient evidence had been presented by the Tax Commission.[16]

The problems pointed out in the regulatory structure by the Thunderbird case led to substantial revisions in the gaming statutes during the 1959 Legislature. Governor Grant Sawyer recommended that the Legislature create a new State Gaming Commission, independent of the Tax Commission, whose function would be to devote its full energies to establishing and administering gaming regulations. Also, the State Gaming Control Board would act as the enforcement arm of the Commission and provide the professional staff necessary to gather and present information to the Gaming Commission on gaming matters. The legislation also addressed the concerns of due process to protect the Commission from future court attacks. This legislation passed, and still remains the foundation of the state's gaming regulation.[17]

Throughout the 1950's, the gaming industry's negative image precluded the securing of loans for expansion from orthodox financial institutions. However, because of the high degree of profitability of gaming operations, there was ample reason to attempt to secure financing from whatever sources were available. This led to the claims, and probably the reality, that there was considerable investment of "mob money" in gaming, expecially in Las Vegas.[18] The gaming industry was therefore caught in a vicious circle. It could not borrow from banks, savings and loan institutions, or other financial institutions because of its bad reputation. This void then was filled by capital from questionable sources which only exacerbated the industry's reputation.

This situation attracted the attention of Jimmy Hoffa, who in 1955, tried to persuade the trustees of the Teamsters' Central States Pension Fund to purchase the Sands Hotel and Casino in Las Vegas for $10 million. The trustees, however, objected both to the terms of the purchase and the riskiness of the venture. Hoffa kept his interest in Nevada and casino operations but moved slowly in promoting loans to Nevada interests. By 1962, loans to Nevada interests amounted to only $5.5 million from the Central States Pension Fund, only three percent of its portfolio. However, in 1962, the trustees allocated 22% of their disbursements to Nevada operations.[19] This marked the beginning of widespread loans to Nevada casinos which included among others the Stardust, the Fremont, the Hacienda, the Desert Inn, the Dunes, the Landmark, the Four Queens, the Aladdin, the Circus Circus, and Caesar's Palace, all in Las Vegas, and Harold's Club and the Riverside in Reno. By 1977, Las Vegas casinos held $240 million in Teamster Pension Fund loans, 24% of its entire portfolio.[20]

The hostility between Jimmy Hoffa and Attorney General Robert Kennedy, along with Hoffa's interest in Nevada through Teamster pension fund investments, contributed to Kennedy's "war on Nevada" when he became U.S. Attorney General in 1961. In May 1961, Kennedy, who was convinced Nevada gambling was merely acting as a front and a bank for organized crime, wanted to have 65 federal agents deputized as Gaming Control Board agents and simultaneously raid all major casinos in Nevada and confiscate their financial records. Negotiations between Governor Sawyer and the Attorney General led to a cancellation of the raid, but left no doubt that the Department of Justice was serious about getting organized crime out of casino gambling or shut the industry down if that were not possible.[21]

Within the next six months, numerous federal agencies, including the Internal Revenue Service, the FBI, the Bureau of Narcotics, and the Department of Labor were conducting investigations into Nevada gambling operations. The major interest of the Internal Revenue Service was the detection of skimming and therefore tax evasion by casino owners. The FBI, on the other hand, wanted to determine hidden ownership interests in casinos and resorted to illegal wiretaps from 1963 to 1966 to gather information. Though only one conviction came from the FBI wiretaps (a 1973 plea of guilty by owners of the Flamingo casino that Meyer Lansky had shared in casino profits from 1960 to 1967), the Justice Department claimed that substantial sums were being skimmed from the gaming winnings of the Fremont, the Sands, the Flamingo, the Horseshoe Club, the Desert Inn and the Stardust, all in Las Vegas. By 1966, the relations between the State of Nevada and the Federal government had become extremely strained; this became a critical factor in the 1966 gubernatorial election campaign between Governor Sawyer and Lieutenant Governor Paul Laxalt.[22]

Nevada's image was also tainted during this period by the publication of two books: *The Green Felt Jungle* in 1963 and *Gambler's Money* in 1965. In both books it was argued that many casino operations, especially those in Las Vegas, were owned and operated by characters with organized crime backgrounds and that, among their other activities was the systematic corruption of politicians in Nevada. This just added support to Kennedy's thesis that Nevada casino gambling was inherently corrupt and the country would be better without it.

## IV. CHANGING THE IMAGE: 1967 to 1977

Faced with open hostility between Governor Grant Sawyer and FBI Chief J. Edgar Hoover, Nevada voters elected, by a slim margin, Paul Laxalt as Governor in 1966. Laxalt had promised to make peace with the Federal Government and to seek a meeting with Hoover. During the campaign, he said: "We have to erase the image that we are in bed with hoodlums. We must prove to people across the nation that we are an honest state, operating above board and out in the open."[23] Though without much of a plan, aside from a recognition of the need to improve Nevada's public image, Laxalt benefited substantially from the emergence of Howard Hughes as a willing buyer of casino properties from 1967 to 1970. Though Hughes never constructed any facility in Nevada, he purchased a number of casinos, including the Desert Inn, the Sands, the Castaways, the Frontier, the Silver Slipper, and the Landmark, all in Las Vegas, plus Harold's Club in Reno. He also purchased a television station in Las Vegas, and attempted to buy the Harrah's casinos at Reno and Lake Tahoe, and the Dunes and the Stardust in Las Vegas. The Harrah's and Dunes acquisitions fell through when negotiations broke down, and the Stardust was blocked by threats of antitrust actions by the Justice Department. Nevertheless, by 1968, Howard Hughes had become the largest single employer in the state and was a critical influence on the national image of Nevada gambling.[24]

Even though Hughes did not provide investment capital for the gaming industry, he did provide legitimacy. The attitude seemed to emerge that if Howard Hughes, the eccentric but shrewd businessman and billionaire, was investing extensively in Nevada casinos, the industry could not be that tainted. It is ironic that many of Hughes' investments were made at prices well above a fair market value, and that Hughes was losing control of his mental faculties during that period. Nevada officials were extremely happy to have his presence in the state and even waived Gaming Commission rules in the licensing procedures to accommodate the reclusive Mr. Hughes.[25]

The second major change which occurred during the Laxalt administration was the passage of the Corporate Gaming Acts in 1967 and 1969.[26] The issue of whether or not licensing requirements should be modified to allow for public corporate ownership had been debated throughout the industry and the state at least since 1963. The major argument in its favor related to the need for new sources of capital. This was most apparent in Las Vegas, where there was considerable pressure for economic expansion. The capital requirements for the casino-hotel complexes that typified the Las Vegas Strip operations were substantial, and there was growing evidence that the industry was characterized by economies of large scale production. Other arguments which emerged in support of corporate ownership were that this would broaden the ownership base of casinos and therefore make the industry less susceptible to arbitrary attacks from the Federal government. Also, it was felt public corporations, which are answerable to the Securities and Exchange Commission as well as to their stockholders, would share a common interest with the state in creating an image of legitimacy and integrity in their operations; stock prices could be badly affected by scandals. Thus, public corporations would have a strong interest in developing adequate accounting controls and other security measures, where individual casinos might be ambivalent to the idea. In similar fashion, the separation of ownership and management which typifies modern public corporations would reduce some of the stronger incentives of the owners to skim casino profits to evade taxation.

On the other hand, there was opposition to the new legislation, coming especially from the gaming industry in northern Nevada. The North had not had the problems of organized crime infiltration that had plagued Las Vegas over the years. They also did not have as large casino-hotel operations or the pressure of competition through growth that characterized Las Vegas. It was felt by some that public corporate ownership would just provide a greater smokescreen for undesirables to hide behind as hidden owners. Also, because of various federal laws which provide jurisdiction over public corporations, the Federal government might use public ownership as a means of establishing a justification for Federal regulation of gaming.[27] More pragmatically, the major casino owners in northern Nevada, including William Harrah, did not see much advantage at the time of being able to take their companies public. Perhaps they feared the potential competition that public corporations might bring to the gaming industry.[28]

When the first Corporate Gaming Act passed the state Legislature in 1967, certain technical problems made the bill unworkable. Over the next two years, Governor Laxalt along with his Advisory Gaming Policy Commission worked out an acceptable modification of the legislation governing corporate ownership of casinos, which was passed into law during the 1969 legislative session.

Aside from the expanding access to capital through equity markets for existing casino operators and allowing acquisitions of casinos by public corporations from other industries, the Corporate Gaming Acts had a considerable effect on the future of the casino gaming industry by expanding the amount of public information available on the profitability of gaming operations. Prior to 1969, outsiders and indeed the State of Nevada could only guess at the profitability of casinos by noting such indicators as the rate of expansion of the industry or the rate of growth of gross gaming revenues. However, because there were no public corporations and no state requirements for the reporting of income statements, profit levels and other direct measures of performance were strictly a matter of conjecture. The 1967 Corporate Gaming Act created the Economic Research Division of the Gaming Control Board whose function was to establish a standard financial reporting form and to disseminate financial data on the gaming industry which could be used "either to measure the efficiency or economics of individual operations, or to appraise economic conditions which have a bearing on the industry."[29]

In late 1972, the Economic Research Division released the first *Nevada Gaming Abstract,* which summarized aggregate industry performance by region in the state and by size of operations. At about the same time, a number of publicly traded corporations which had emerged in Nevada gaming either through acquisition or by going public, released annual reports and other financial data relating to their performance. The findings in these state and private reports confirmed what previously had been strongly suspected; the gaming industry, especially with respect to well-run operations, was extremely profitable and exhibited an excellent record of economic growth and resilience even in times of national economic recession. This enhanced the interest of well-established corporations in related industries, such as hotels and entertainment, which by the late 1970's had made substantial inroads into the gaming industry.[30]

In the early 1970's, the state's reputation as an effective regulator of the gaming industry was aided by the high level of integrity with which the State Gaming Control Board and its Chairman were held both by insiders and outsiders to the gaming industry. Although state regulation of gaming had never experienced a significant scandal, there had long been doubts, especially in federal enforcement agencies, as to the basic effectiveness of the state's regulation. Perhaps because of other factors such as corporatization, the image of state regulation would have improved anyway. However, the Control Board Chairman's reputation as a hardnosed and untouchable administrator gave substance to the belief that Nevada was solving its regulatory problems. As an illustration, the final report of the Commission on the Review of the National Policy Toward Gambling, *Gambling in America* (1976), stated: "Nevada has used its 45 years of experience in the gaming field to develop a regulatory system that is sophisticated, efficient, and on the whole, capable of maintaining the integrity of the gaming industry at an acceptable level."[31]

A final contribution to the improvement of the gaming industry's image that occurred between 1967 and 1977 was the issuance of the *Gambling in America* report itself. The report took two positions highly favorable to the Nevada gaming industry. First, it was argued that the regulation of gambling, when legal, should be the sole jurisdiction of the state. "The Commission has concluded that States should have the primary responsibility for determining what forms of gambling may legally take place within their borders. It believes that the only role of the Federal Government should be to prevent interference by one State with the gambling policies of another and to protect identifiable national interests with regard to gambling issues."[32] Second, on the subject of the relation of organized crime to the gaming industry, the report went on to say: "Although organized crime once was a significant factor in some Nevada casinos, its influence has decline considerably and consistently during the past ten years. In comparison with the situation 15 years ago, the presence of organized crime in Nevada today is negligible."[33] To the extent that the *Gambling in America* report was credible, its conclusions were ideal for the long-term objectives of the gaming industry and the State of Nevada. Problems which arose in the few years subsequent to issuance of the report somewhat tarnished the strength of its findings and recommendations. These form the subject matter for the following section.

## V. CURRENT ISSUES AND CONTROVERSIES: 1977 TO THE PRESENT.

In November 1976, the voters of New Jersey approved the legalization of casino gambling in Atlantic City, a depressed resort area with a population of about 45,000 on the New Jersey coast. Enabling legislation was put together during the 1977 session of the New Jersey Legislature, and with the opening of the Resorts International Casino in May 1978, New Jersey became the second state in the United States with legalized casino gambling.

It was apparent within a very few weeks of operations that there was tremendous demand for casino gaming on the East Coast. In their first twelve months of operation, the Resorts Casino generated gross gaming revenues of $228 million, 28% more than the seven casinos at South Lake Tahoe for the comparable period. From July 1979 to June 1980, the three casinos in operation in Atlantic City generated gross gaming revenues of $490 million, which were almost 10% more than the winnings of the 34 casinos in Reno-Sparks (Washoe County) for the comparable period. By the end of 1981, there were nine casino-hotels in opeation, and in 1981 gross gaming revenues for Atlantic City were $1.1 billion, 44% of Nevada's total for the same year. Clearly, with a population in excess of 50 million within a five hour drive of Atlantic City, it is quite possible that the New Jersey gaming industry will continue to experience substantial growth in volume.

Given this extraordinary growth performance, along with the trend in Nevada toward legitimization and improved access to financial capital, it was felt by many analysts that casino gaming may become a major growth industry in the country through the 1980's. By 1978, a referendum was on the ballot in Florida to legalize casinos in Miami. From 1978 through 1981, the New York Legislature tried to pass legislation which eventually could have legalized casinos in that state. And in 1981 Massachusetts attempted to legalize casinos in two communities.[34] Apparently legal casino gambling was regarded as an ideal cure for declining tourist areas or was needed to prevent the loss of tourism and convention business to other areas where casino gambling was legal.

However, a number of events occurred from 1978 to 1982 that indicated the road to legitimacy for legalized gaming had not been and would not be smooth. Shortly before leaving the Board in 1977, the head of the Audit Division of the Nevada Gaming Control Board wrote a memo to the Chairman summarizing audit activities by the Board from 1972 to 1976.[35] The memo indicated that Control Board investigations in 1976 had discovered skims of slot revenues at various Argent Corporation casinos in Las Vegas. The estimated amounts of the skims were $7 million at the Stardust, and about 20% of slot revenues at the Fremont, Hacienda and Marina casinos. [36] Other investigations revealed massive credit frauds had been instigated by alleged organized crime figures at a number of casinos; players were granted casino credit under a false name and then the credit would never be repaid. These schemes, which involved credit defaults for upwards of $700,000 at the MGM Las Vegas and in excess of $1 million at the Tropicana, were usually undertaken to defraud casino owners, and often involved some kind of inside collusion.

The memo also pointed out a number of ongoing investigations which indicated links between certain casino operations and alleged members of organized crime or persons of notorious and unsavory reputation. For example, sources of funds which the Argent Corporation had used to purchase a number of casinos were being investigated, and audits of Caesar's Palace indicated a number of financial dealings with a net present value of $25 million had been undertaken between 1971 and 1976 with a known associate of Meyer Lansky. Finally, there was considerable evidence that Aladdin Casino in Las Vegas had been infiltrated by individuals with alleged organized crime backgrounds, and that the casino had catered to a number of alleged organized crime figures over the period from 1974 to 1976.[37]

A second series of events involving the Argent Corporation emerged during the 1970's which created considerable problems for gaming control. Argent was solely owned by Allen Glick, a southern California businessman, who in 1973 and 1974 had borrowed about $65 million from the Teamsters' Central States Pension Fund to buy the Hacienda, the Fremont, and the Stardust casinos. Although Glick had little capital to secure the loans, he had had no criminal record, so his acquisitions were accepted, though uneasily, by the Control Board. By 1977, Mr. Glick held a total of $156 million in Teamster loans for properties in California and Texas, along with four Nevada casinos.[38]

Soon after his casino acquisitions, Mr. Glick employed Frank "Lefty" Rosenthal as an advisor for casino operations. Because of his status as a key employee, Mr. Rosenthal was called before the Gaming Commission for licensing. Subsequent investigations turned up convictions in Rosenthal's past that, in the opinion of the Control Board and Commission, made him an undesirable candidate for licensing. There was also concern about his acquaintance with an alleged mafia member who was thought to be the watchdog for mob interests in Las Vegas.[39]

Rosenthal appealed the Commission's decisions and it was overturned in Nevada District Court. This action was taken on the grounds the decision had denied Rosenthal due process and the gaming statutes themselves were unconstitutional because they did not specify the standards that should be used to determine licensability of an applicant. The case was appealed by the State of Nevada and, in 1977, the Nevada Supreme Court reversed the Rosenthal decision in the state's favor.

This case was clearly important to the state because if the lower court arguments were upheld, the ability of the regulatory bodies to keep undesirable characters out of the gaming industry would be substantially diminished. In this respect, it paralleled the Thunderbird case of 1955 and the "Black Book Episode" of 1961.[40]

However, two other incidents occurred in connection with the Rosenthal case that were also quite important for the broader issue of industry legitimacy. In 1977, it was revealed the District Court judge who had initially found in favor of Rosenthal had held his daughter's wedding reception at the Stardust Casino in 1974 and the bill for the reception, $2,800, had been paid for by the casino, owned by Argent. Though no formal impropriety was charged against the judge, the incident pointed out the potential for influence buying from an industry whose "complementaries" amount to approximately 10% of gross gaming revenues each year.

The second incident also related to the attempts of Rosenthal to be licensed. Shortly before the gubernatorial election in 1978, the Republican candidate, who had been Nevada Attorney General during the Rosenthal case and appeal, claimed to state officials he was being extorted by Rosenthal and a Las Vegas newspaper publisher on the basis that if he did not promise to help Rosenthal get licensed after he was elected Governor, the newspaper would reveal he had taken complementaries from the Stardust over the past couple of years in the forms of free rooms and other services valued at $3,200. Furthermore, the Attorney General had filed for travel reimbursements from the state for the days he had been "comped". The implied impropriety here was that the Attorney General was "double dipping" on his travel claims. More important, however, was the fact the Attorney General's office was responsible for handling the appeal on the Rosenthal case, which was vitally important to the State of Nevada. Even though there was never evidence his office was in any way influenced by the services the Attorney General was taking, it still allowed for the potential for later compromise. In effect, both the District Court judge's and the Attorney General's acceptance of complementaries pointed out the high potential for the systematic corruption of public officials that opponents to legalized gambling have long claimed is inevitable.

Another series of events occurred in 1979 which added to the image difficulties the casino gaming industry was encountering. In Detroit, four men were convicted of concealing hidden ownership interests of mob-related figures in the Aladdin casino. Also, FBI wiretaps in the same case revealed that certain organized crime figures claimed there were large skimming operations still going on at some Las Vegas strip casinos and that the Chairman of the Gaming Commission was under their influence. Though these claims were only allegations, they again contributed to the impression that Nevada's regulation of casino gambling was less than fully effective. In a similar vein, when the FBI's Abscam investigations were revealed, a member of the New Jersey Casino Control Commission was forced to resign after allegations he had discussed accepting a bribe to help someone receive a gambling license for Atlantic City. This incident induced the Governor of New Jersey to reconstitute the structure of the entire Commission, ultimately replacing the part-time Commission appointees with full-time members.

Licensing proceedings for Atlantic City casino properties have also suggested problems arising because of associations between some corporations with casino gaming interests and individuals with links to organized crime. In each of the first three permanent licensing hearings for Atlantic City casinos (Resorts International, Bally's and Caesars World), claims were made by the New Jersey Division of Gaming Enforcement that there had been prior associations between important stockholders or corporate directors and known organized crime figures. With both Bally and Caesars World, important stockholders were mandated to divest themselves of their holdings in the Atlantic City casino operations before the corporations would be granted a permanent license.[41]

Two controversial Nevada situations also contributed to the image problems the gaming industry was experiencing between 1979 and 1981. Because of the extensive slot machine skims that had been occurring at the Stardust and other Argent Corporation casinos, the Nevada Gaming Commission finally pulled Argent's gaming license and forced a sale in late 1979. The sale itself was met with some controversy because of questions of the backgrounds of the buyers, owners of the Trans Sterling Corporation; disagreement over this sale was one of the factors contributing to the resignation of the Chairman of the Nevada Gaming Control Board in 1979. The release of affadavits by FBI investigators in early 1982 revealed that the FBI suspected that the new owners were once again fronts for Midwestern mob interests (as the FBI had felt the Argent Corporation had been under Glick and Rosenthal), and that large skims were still taking place from the same properties.[42]

After conviction of the Detroit figures for hidden ownership interests in the Alladin Casino, the Gaming Commission mandated that it also be sold. However, it allowed the casino to remain in operation under a state "trustee" management, and gave the owners the right to negotiate the sale and accept or reject any offers made. This situation continued for more than a year until a sale was finally consummated in mid-1981, after the Gaming Commission had finally closed down the operation. Once again, as with the Argent sale, there was some controversy over the character and integrity of the new buyers.

Even the strongly supportive position for the Nevada gaming industry that was found in *Gambling in America*, the final report of the Commission on the Review of National Policy Toward Gambling, suffered from credibility problems by the late 1970's. The final report, which claimed that organized crime influences in Nevada had become "negligible" from the early 1960's to the mid-1970's, in retrospect clearly underestimated or underplayed the importance of the continuing problems of hidden ownership and organized crime influence that still prevailed in the gaming industry. The report was also severely criticized in a pair of professional journal articles for questionable research methodologies, conclusions and recommendations.[43]

The problem the gaming industry will continue to confront with respect to its image and its legitimacy will long be complicated by the fact that many of the roots of Nevada's legal casino industry can be traced back to owners and operators with backgrounds in illegal gambling or organized crime. From recent events, it is clear not all of the old undesirable ties have been broken. The stigma of hidden ownership and the sharing of skimmed profits with organized crime figures has shown up frequently over the past thirty years. As new scandals arise, it is surprising, yet perhaps indicative of the difficulty of cleansing the industry of its sordid past, that the same names seem to show up again and again. It has been argued that with some casino properties, such as the Stardust in Las Vegas, that ownership never really has changed hands over the years. Only the nominal owners would be changed in reaction to attempts of regulators to ferret undesirables out of the operation, and the new nominal owners would carry on skims and survive as long as they could before new scandals would force them out.[44]

## VI. CONCLUSIONS AND OBSERVATIONS

The drift of economic and political trends in the gaming industry in Nevada and Atlantic City give rise to a number of important observations and hypotheses. First, it is clear that in spite of numerous setbacks caused by recent events, the image and perceived integrity of the casino gaming industry have improved since the mid-1960's. The willingness of financial institutions to make financing available to casino and casino-hotel operations in Nevada and Atlantic City on economic criteria alone indicates that they do not give as much weight to the moral or organized crime stigmas as they used to. Also, the willingness of states and other political jurisdictions, such as New York, Massachusetts, Florida and Quebec, to actively consider the legalization of casino operations, is an indication that at least some policy makers believe that the potential problems that have often been associated with casino gambling can be minimized or eliminated through diligent regulatory actions. Finally, with the increased role of publicly traded corporations in the gaming business, it is likely that the problems of hidden ownership and skimming from gambling winnings will not be as hard to control as they have been in the past.

On the other hand, casino gambling is still an activity that is not considered fully legitimate in the eyes of the general public. Because of this, scandals associated with legal gambling will always have the potential of raising the question of whether the institution of gambling itself is inherently corrupt, and if so, whether or not it should be eliminated. As casino gambling is taken from an illegal status to a legal status in new jurisdictions, potential for substantial excess profits is created. It is unclear who the beneficiaries of those excess profits should be, and therefore there is much room for political maneuvering in determining the size and division of excess profits among the gaming operators, the state, and other possible beneficiaries. Because the decisions of legislators and of regulators will determine these allocations, and because the allocations are potentially quite valuable to the various parties involved, the casino gaming industry will be a major candidate for corruption or scandal. This situation is not necessarily unique to gaming; any industry with high profit potential which does not have well-defined or commonly accepted standards for the distribution of economic benefits would be subject to the same potential pressures.

There are a number of reasons why jurisdictions would seriously consider legalizing casino gambling. Among the most important reasons are the economic ones. Casino gaming has the potential of becoming an important new source in job creation and tax revenue generation, at least at the local, regional or state level. Furthermore, as with Atlantic City, casino gaming has the potential of revitalizing a declining tourist resort area or, for that matter, a declining urban hotel industry catering to tourists, conventions, or businessmen. The economic arguments in favor of casino legalization are strong, and are only tempered by similarly strong negative arguments dealing with organized crime, the potential for political corruption associated with gaming, or with other social costs that the presence of casino gambling might inflict on a community or a society. The interaction of these forces, along with the behavior of the gaming industry and its regulators, will greatly influence the extent of the expansion of legal casino gambling for the remainder of the century.

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***Footnotes:***

[1] *Nevada Statistical Abstract,* 1979, p. 4; Governor's Office, Carson City, Nevada.

[2] See, for example, Thomas Cargill and William R. Eadington, "Nevada's Gaming Revenues: Time Characteristics and Forecasting," in *Management Science,* Vol. 24, No. 12, August 1978, pp. 1221-1230.

[3] *Ibid,* p. 1227.

[4] Nevada Gaming Abstract, State Gaming Control Board, Carson City, NV, 1980, p. 2-1 and 3-1.

[5] Casino industry growth in the Reno-Sparks area between 1977 and 1978 amounted to about a 40% increase in employment and casino capacity in a 12 month period. This created substantial problems for the industry that year and in the following years as the growth in demand for gaming services did not keep up with the industry's growth. At Lake Tahoe, environmental problems and politics did constrain the industry's expansion through the 1970's. Nonetheless, the industry approximately doubled in capacity from 1970 to 1980 at the Lake's major casino area.

[6] See for example, William R. Eadington, "Economic Trends in Nevada's Gaming Industry," *National Tax Association Proceedings,* 1978, pp. 264-272.

[7] The regulatory structure of the Control Board and Commission, along with many of the problems and issues, are extensively discussed in the book, *House of Cards* by Jerome H. Skolnick (Little Brown and Company, Boston, 1978).

[8] Commission on the Review of the National Policy toward Gambling, *Gambling in America,* Government Printing Office, Washington, D.C., 1976, pp. 83-86.

[9] William R. Eadington and James S. Hattori, "A Legislative History of Gambling in Nevada," *Nevada Review of Business and Economics,* Spring 1978, pp. 13-17.

[10] Ed Reid and Ovid Demaris, *The Green Felt Jungle,* Trident Press, New York, 1963, chapters 2 and 3.

[11] Third Interim Report of the Special Committee to Investigate Organized Crime in Interstate Commerce, Arco Publishing Company, New York, 1951, p. 93.

[12] Ibid., pp. 93-94.

[13] *Green Felt Jungle, op. cit.,* chapters 6 and 7.

[14] Ibid., pp. 123-124.

[15] Mary Ellen Glass, *Nevada's Fabulous 50's,* University of Nevada Press, Reno, 1981, pp. 25-38.

[16] Eadington and Hattori, *op. cit.,* p. 15.

[17] *Ibid.,* pp. 15-16.

[18] For discussions on this issue, see *Green Felt Jungle, Op. cit.;* Wallace Turner, *Gambler's Money,* Houghton Mifflin, Boston, 1965; and Gabriel Vogliotti, *Girls of Nevada,* Fawcett Crest, New York, 1975, chapters 7, 8, and 9.

[19] Ralph James and Estelle James, *Hoffa and the Teamsters,* Van Nostrand Co., Princeton, New Jersey, 1965, p. 244.

[20] Steven Brill, *The Teamsters,* Simon and Schuster, New York, 1978, pp. 200-260.

[21] *House of Cards, op. cit.,* pp. 124-133.

[22] *Ibid.,* p. 132.

[23] *House of Cards, op. cit.,* p. 132.

[24] Donald Barlett and James Steele, *Empire: The Life, Legend, and Madness of Howard Hughes,* Norton Company, New York, 1979, pp. 276-339.

[25] *Ibid.,* pp. 290-295.

[26] Eadington and Hattori, *op. cit.,* p. 16.

[27] *House of Cards, op. cit.,* pp. 142-144.

[28] *The Oral History of William Harrah,* The Oral History Project, University of Nevada, Reno, 1980, p. 296.

[29] *Nevada Gaming Abstract,* 1972, State Gaming Control Board, Carson City, p. 1.

[30] See Eadington, "Economic Trends in Nevada's Casino Gaming Industry," *op. cit.,* for a discussion of this issue.

[31] *Gambling in America, op. cit.,* p. 86. Also, the book, *House of Cards, op. cit.,* discusses many of the important issues that came before the regulatory agencies from 1974 to 1977, and discusses many of the internal operations and attitudes that prevailed at that time.

[32] *Gambling in America, op. cit.,* p. 2.

[33] *Ibid.,* p. 78.

[34] The Miami referendum subsequently lost, due mainly to opposition on moral grounds from voters outside the Miami area. As of 1981, neither the New York nor the Massachusetts legislation had been passed into law.

[35] *Rouge et Noir Resort Management report,* Vol. 3, No. 3, Glen Head, New York, March 18, 1980, pp. 8-23.

[36] *Ibid.,* pp. 9-10. See also Jim Drinkhall, "State Gaming Officials Say Millions Vanished from Argent's Slots," *Wall Street Journal,* September 10, 1979, p. 1.

[37] *Rouge et Noir Management Report, op. cit.,* pp. 17-19.

[38] *House of Cards, op. cit.,* pp. 206-219. See also Hal Lancaster, "How Allan Glick Hit Jackpot with Millions from Teamster Funds," *Wall Street Journal,* December 27, 1976, p. 1.

[39] Jim Drinkhall, "Eastern Mob Families Move into California, Take Over Many Firms," *Wall Street Journal,* November 24, 1978, p. 1.

[40] The "Black Book", officially known as *The List of Excluded Persons*, is a list of people considered by the Nevada Gaming Control Board to be of notorious or unsavory character. They are prohibited, under threat of prosecution and of license revocation for the casino involved, to enter into the premises of a gaming facility in Nevada. As of 1980, there were nine people listed in the "Black Book." See Edward Olsen, "The Black Book Episode: An Exercise in Muscle", in *Sagebrush and Neon*, Eleanor Bushnell (ed.), University of Nevada Press, Reno, 1973, pp. 1-21.

[41] General discussions of the New Jersey casino licensing hearings can be found in the publications *Rouge et Noir News* and *Rouge et Noir Resort Management Report*, published by Rouge et Noir, Inc., Glen Head, New York. An extensive discussion of the Resorts International licensing hearings, along with a description of the process of casino legalization in Atlantic City, can be found in Gigi Mahon, *The Company that Bought the Boardwalk*, Random House Inc., New York, 1980.

[42] For a discussion of FBI investigations into organized crime associations with casino operations, see "The FBI and the Gaming Industry: Annals of Myth and Reality", in *Gaming Business Magazine*, Vol. 3, No. 3, 1982.

[43] See Peter Reuter, "Easy Sport: Research and Relevance", in *The Journal of Social Issues*, Vol. 35, No. 3, 1979, pp. 162-182, and Lester Snyder, "Regulation of Legalized Gambling: an Inside View", in the *Conhecticut Law Review*, Vol. 12, No. 4, Summer, 1980, pp. 665-726.

[44] In *House of Cards (op. cit.)*, Skolnick argues: "The theory—that the Stardust was always controlled by mob interests, who could from time to time produce new and acceptable purchasers, plus financing from the Teamsters—is perhaps plausible, but no law enforcement body has been able to demonstrate its validity in a courtroom," p. 217. In *Teamsters (op. cit.)*, Brill argues that Glick and Argent were solely a front in a longstanding relation between the Teamsters and the mob, and that the intent was to skim the Argent casinos heavily for tax free and hidden income. However, the state's discovery of the slot machine skims, along with other state and federal investigations, diminished the ability to do this.

# The Commercial Impact of Retired Visitors in a Gaming Resort Market

*by Lawrence Dandurand**

*The author shows that the potential active retiree market is large and growing and that retirees visiting Las Vegas differ from other visitors in the nature of their needs, wants, and life styles. However, retirees comprise only 12 percent of the Las Vegas visitor market. After indicating the commercial impact of retired visitors on the Las Vegas economy, the writer suggests that retirees would respond favorably to marketing programs designed to satisfy their particular needs and interests.*

### Introduction

Many commercial enterprises in a destination resort area such as Las Vegas need viable marketing strategies that produce such desirable ends as high mid-week activity levels. Current mid-week strategies tend to focus on conventions, package plans, and charter bus programs. While these strategies are to be commended, one might ask if the gaming resort industry is overlooking a growing and potentially lucrative market, namely, active retirees.[1]

Retirees as a group are significantly different from the rest of the population. They have passed from a highly structured work environment to a highly unstructured leisure time situation. They do not have schedules to meet. They do not need to think about Monday morning or the week after next. Active retirees can visit a resort area during mid-week at any time of the year and stay as long as they like. In other words, they have the opportunity to engage in a variety of leisure activities at the time of their choosing.

Retirees can be divided into two groups—the active retireds and the inactive retireds. The active retireds have the time, health, resources, and desire to travel and visit resort areas. This groups is a viable target market for the gaming resort industry. When compared to other visitors, its members have different needs and distinct media habits.

Retirement is superior to age for segmenting the gaming resort market. The amount of free time available and corresponding behavior is more dependent upon the phenomenon of retiring than age per se. Corporate and governmental decision makers have tended to perceive retirement, old age, senior citizens, and age 65 plus as the same thing. However, upon observation, one can conclude that a substantial number of people retire before age 65 and do not consider themselves to be senior citizens, and that others who are aged 65 plus do not act "old," i.e., feeble and inactive.

Furthermore, the current situation is changing. The average retirement age is declining. By the year 2000, there will be 50 million retired persons aged 55 plus. [2] More individuals electing early retirement, along with increasing life expectancy (excluding cancer and heart research breakthroughs), and a continuing liberalizing change in attitudes toward work, leisure, and the future, will result in more individuals with more leisure over longer periods of time with more desire to be active and enjoy themselves now. Consequently, the opportunity for commercial stimulation would seem substantial. [3]

Several questions arise with regard to understanding the programming for the active retireds target market. How many are there? What are their needs? What kinds of behavioral patterns do they exhibit? What are their sociodemographic characteristics? How do they differ from other target markets? What is their commercial impact? Can a distinct, efficient marketing program be developed for them? What are the future possibilities? The research project cited below is an attempt to answer these questions and provide suggestions for future research.

## RESEARCH PROJECT

It is known that Las Vegas attracts a mature visitor. It was thought that it attracts a substantial number of active retireds. Therefore, a project was devised to measure the number of active retireds visiting Las Vegas, their characteristics, their similarities and differences from other visitors, their economic impact on the Las Vegas economy, and their attractiveness as a specific market target. It was thought that the research results would have general applicability, not only to gaming resorts and resort destinations in particular, but also to the leisure industry in general.

### Las Vegas Visitor Profile Studies

This project was a part of a more comprehensive, ongoing, Visitor Profile Study being conducted for the Las Vegas Convention/Visitors Authority. The Las Vegas Visitor Profile Study has been in progress since 1975. It is conducted on a continuous, year-round basis. Its purpose is to produce a fundamental understanding of the Las Vegas

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visitor and the Las Vegas market.

The Study produces quarterly and annual summaries. In addition, special studies are conducted based on the underlying data base. These special studies have been conducted for a wide variety of users—including agencies of the Las Vegas Convention/Visitors Authority and individual hotel/casinos. In addition, academic-type papers and articles based on the Study and covering different topics—such as "high-rollers" and "foreign" visitors—have been presented to the gaming industry and the general public. The current retiree project presented in this article is one of these on-going special studies.

### Research Methodology

The basic research results of the retiree project are based on a scientifically selected sample of two thousand visitors to Las Vegas in the first six months of 1981. The visitors were selected according to a proportional, multi-stratified quota and systematic sampling plan.

The sampling plan divided the visitor population into four strata based upon mode of transportation used in departing Las Vegas. Each mode stratum was then divided into sub-strata (groups) of visitors based upon geographical residence, area of Las Vegas, and time quotas. Strata proportions were based upon known characteristics of the Las Vegas market.

Specific visitors were randomly selected from each sub-stratum. Selected visitors were interviewed at air, bus, and train terminals, and at hotels and motels. Airline, bus, and train interviews represented various destinations, days, hours, and transportation companies. Automobile interviews represented various locations, days, and hours.

Specially trained interviewers established contact with randomly selected respondents and then asked them to complete a self-administered personal interview questionnaire. The interviewers explained any questions that were not understood, and they immediately field-edited each questionnaire for completeness, correctness, legitimacy, and consistency. Any possible discrepancies were resolved by asking respondents additional questions. This approach reduced interviewer bias while maintaining a low and controllable refusal rate. In certain cases, foreign language interpretation was utilized.

## RESEARCH RESULTS

### Market Penetration

An analysis of the retiree sub-sample produced some surprising information. The size of the retiree segment is illustrated in Table 1. The table indicates that 12 percent of the visitors to Las Vegas in the first two calendar quarters of 1981 were retired. This figure is confirmed by that reported by the Las Vegas Visitor Profile Study for 1980 [4].

TABLE 1

**Retiree Market (Active Retireds)**

| Sub-Sample | Number | Precentage |
|---|---|---|
| 1. Retirees | 234 | 12% |
| 2. Others | 1,737 | 88% |
| Sample[1] | 1,971 | 100% |

[1] It should be noted that 29 respondents (1%) did not answer the primary occupation question.

The 12 percent figure (which translates into 1.5 million person-trips in 1981) indicates that Las Vegas is currently drawing a disproportionately large number of retired persons as a percentage of its total realized market (especially if one conservatively includes foreign visitors who account for 5 percent of the visitor population and only 1 percent of the active retired segment). For example, the active retired market potential in the United States for 1981 is estimated at 13 million persons. This is about 9 percent of all United States adults over the age of 21 compared to 12 percent of all Las Vegas visitors. [5]

However, while the 12 percent figure is impressive, it should be noted that it is based on person-trips, not different visitors. In terms of different individuals, Las Vegas is attracting only about 652 thousand active retireds. This is equivalent to a 5 percent market share of the total active retired market potential in the United States (a geographical breakdown is discussed below). This indicates that the market potential is barely tapped, and the total potential can be expected to increase during the rest of this decade and on into the 21st century.

### Active Retiree Socio-Demographic Characteristics.

**Retiree Profile.** Active retirees visiting Las Vegas tend to be male, between the ages of 51 and 64, married, high school graduates with at least some college, white, earning between $15,000 and $40,000, traveling by public transportation (plane, bus, or train), and from the West. Table 2 compares socio-demographic characteristics across sub-samples and the sample as a whole.

**Profile Differences.** Table 2 indicates that active retirees differ significantly from other visitors according to sex, age, education, household income, mode of transportation used to visit Las Vegas, and place of residence. Retirees are more likely than other visitors to be: (1) male; (2) older; (3) less educated; (4) from households with lower income levels; (5) using bus and train transportation; and (6) from the Western Region of the United States.

**Geographical Considerations.** The Western Region of the United States, and California in particular, supply the most visitors to Las Vegas. Research results indicate that 63 percent of the retiree visitors come from the West. This is significantly higher than the 59 percent of other visitors who come from the same region.

The three most productive states in the Western Region—namely California, Arizona, and Utah—supply most (82%) of the 402 thousand different active retirees from the West. This indicates that Las Vegas is drawing about 20 percent of the active retirees residing in the West. This is about four times the market share rate of 5 percent for the entire United States. [6]

### TABLE 2

### Retiree Socio-Demographic Profile

| Socio-Demographic Characteristics | Retirees | Others | Total Sample |
|---|---|---|---|
| 1. **Sex*** | | | |
| a. Male | 64% | 54% | 55% |
| b. Female | 36% | 46% | 45% |
| 2. **Age*** | | | |
| a. 21-30 | 0% | 20% | 17% |
| b. 31-40 | 0% | 28% | 25% |
| c. 41-50 | 5% | 29% | 26% |
| d. 51-64 | 53% | 23% | 26% |
| e. ► 64 | 41% | 1% | 6% |
| 3. **Marital Status** n.s. | | | |
| a. Married | 79% | 77% | 77% |
| b. Single | 21% | 23% | 23% |
| 4. **Education*** | | | |
| a. Elementary | 5% | 4% | 4% |
| b. High School Graduate | 39% | 28% | 29% |
| c. Some College | 28% | 30% | 29% |
| d. College Graduate | 21% | 26% | 25% |
| e. Post Graduate | 6% | 13% | 12% |
| 5. **Ethnic Origin** n.s. | | | |
| a. White | 94% | 91% | 92% |
| b. Black | 3% | 4% | 4% |
| c. Hispanic | 0% | 2% | 1% |
| d Asian | 3% | 3% | 3% |
| e. American Indian | 1% | 1% | 1% |
| 6. **Household Income*** | | | |
| a. ◄ $10,000 | 8% | 3% | 3% |
| b. $10,000 - $14,999 | 17% | 7% | 8% |
| c. $15,000 - $24,999 | 44% | 21% | 24% |
| d. $25,000 - $40,000 | 22% | 39% | 37% |
| e. ► $40,000 | 9% | 31% | 28% |
| 7. **Mode of Transportation*** | | | |
| a. Airline | 36% | 46% | 45% |
| b. Bus/Train | 16% | 8% | 9% |
| c. Automobile | 48% | 46% | 46% |
| 8. **Residence*** | | | |
| a. East | 6% | 8% | 8% |
| b. Midwest | 20% | 17% | 17% |
| c. South | 10% | 12% | 12% |
| d. West | 63% | 59% | 59% |
| e. Foreign | 1% | 6% | 5% |

* Statistically significantly different at the p = .05 level.
n.s. Not statistically significantly different at the p = .05 level.

## Retiree Mental Profile

**Motivations.** Active retirees tend to seek a change of pace, escape, friendliness, and pleasure. Compared to other classifications of visitors, retirees are more motivated by challenge, economy, excitement, relaxation and safety, and are less motivated by business considerations. Perhaps the free time (and potential for boredom) available to this segment results in a greater need for challenge and excitement. This group would also be expected to be more concerned with relaxation than generally younger persons. At the same time, the retirees would be more concerned than others about economizing and safety factors.

**Decision Criteria.** The retirees tend to enjoy the climate, the convenience, the cuisine, the desert scenery, the entertainment, the gambling, the lodging, the people, the recreation, the security, and the sightseeing in Las Vegas. The retirees segment values climate, desert scenery, recreation, and security features more highly than the other segment. Retirees place a lower value than others on shopping and transportation. It should be noted that the decision criteria variables were measured in terms of features and an excellent, very good, etc., scale because previous focus group research had indicated that Las Vegas visitors were better able to articulate their beliefs and feelings in terms of a quality scale at one location.

### TABLE 3

### Retiree Mental Profile

| Mental Descriptors | Retirees | Others | Total Sample |
|---|---|---|---|
| 1. **Motivations** (Needs/Benefits)[1] | | | |
| a. Business* | 3.6 | 3.3 | 3.3 |
| b. Challenge* | 2.1 | 2.5 | 2.4 |
| c. Change of Pace n.s. | 1.7 | 1.7 | 1.7 |
| d. Convenience n.s. | 2.7 | 2.7 | 2.7 |
| e. Economize* | 2.9 | 3.1 | 3.1 |
| f. Escape n.s. | 2.1 | 2.1 | 2.1 |
| g. Excitement* | 1.6 | 1.7 | 1.7 |
| h. Fantasize n.s. | 3.0 | 3.0 | 3.0 |
| i. Friendliness n.s. | 2.4 | 2.4 | 2.4 |
| j. Knowledge n.s. | 2.9 | 2.9 | 2.9 |
| k. Pleasure n.s. | 1.3 | 1.4 | 1.4 |
| l. Relaxation* | 1.4 | 1.7 | 1.7 |
| m. Safety* | 1.8 | 2.3 | 2.2 |
| n. Socialize n.s. | 2.6 | 2.6 | 2.6 |
| 2. **Decision Criteria (Features)**[2] | | | |
| a. Arts/Culture n.s. | 3.5 | 3.6 | 3.6 |
| b. Climate* | 1.5 | 1.8 | 1.7 |
| c. Convenient n.s. | 2.4 | 2.5 | 2.5 |
| d. Convention n.s. | 3.0 | 2.9 | 3.0 |
| e. Cuisine n.s. | 2.1 | 2.2 | 2.2 |
| f. Desert Scenery* | 2.2 | 2.4 | 2.3 |
| g. Entertainment n.s. | 1.6 | 1.6 | 1.6 |
| h. Gambling n.s. | 1.6 | 1.7 | 1.7 |
| i. Lodging n.s. | 2.3 | 2.2 | 2.2 |
| j. People n.s. | 2.6 | 2.6 | 2.6 |
| k. Prices n.s. | 3.0 | 3.0 | 3.0 |
| l. Recreation* | 1.8 | 1.9 | 1.9 |
| m. Security* | 1.8 | 2.1 | 2.0 |
| n. Shopping* | 3.1 | 2.9 | 3.0 |
| o. Sightseeing n.s. | 2.6 | 2.7 | 2.7 |
| p. Transportation* | 3.6 | 3.3 | 3.4 |

* Statistically significantly different at the p = .05 level.
n.s. Not statistically significantly different at the p = .05 level.

[1] Figures given are average values based on the following scale: (1) 1 = very important; (2) 2 = fairly important; (3) 3 = somewhat important; and (4) 4 = not important.

[2] Figures given are average values based on the following scale: (1) 1 = excellent; (2) 2 = very good; (3) 3 = good; (4) 4 = fair; and (5) 5 = poor.

### Retiree Behavior Profile

Retirees tend to be repeat visitors, to visit at anytime of the week, to stay in hotels, to play balckjack, keno, and slots, to shop, to stay in the strip area, to gamble every day during their stay, and to use their time for relaxing, sleeping, and gambling.

The retirees segment differs significantly from the other market segments in a number of behavioral dimensions. The typical retiree is more likely than others to have made previous visits, to visit more frequently, to stay during midweek, to stay in an R V park or with friends, to stay downtown, to play bingo/keno/poker, to gamble every day, not to shop, not to engage in recreational activities, to spend more time gambling and relaxing, to spend less time at shows (entertainment) and meetings, and to spend less for a room, food/drink, and ground transportation. Table 4 illustrates the specific percentages and other values of these and other variables across the segments and for the sample as a whole.

TABLE 4

**Retiree Behavioral Profile**

| **Behavioral Descriptors** | **Retirees** | **Others** | **Total Sample** |
|---|---|---|---|
| 1. **Repeat Visitor*** | 83% | 72% | 73% |
| 2. **Charter Groups**$^{\text{n.s.}}$ | 8% | 6% | 6% |
| 3. **Travel/Tour Group**$^{\text{n.s.}}$ | 0% | 1% | 1% |
| 4. **Visit Frequency** (Avg. Trips/Yr)* | 2.3 | 1.8 | 1.8 |
| 5. **Length of Stay** (Avg. No. Overnights)$^{\text{n.s.}}$ | 4.3 | 4.1 | 4.2 |
| 6. **Midweek Visit** (Wed.)* | 64% | 56% | 57% |
| 7. **Lodging Type*** | | | |
| a. Hotel | 73% | 78% | 78% |
| b. Motel | 18% | 17% | 17% |
| c. Park | 4% | 1% | 2% |
| c. Friends | 5% | 3% | 3% |
| 8. **Lodging Area*** | | | |
| a. Strip | 65% | 84% | 81% |
| b. Downtown | 32% | 14% | 16% |
| c. Boulder Highway | 2% | 3% | 3% |
| 9. **Travel Agency Usage**$^{\text{n.s.}}$ | 45% | 45% | 45% |
| 10. **Booked Lodging Before Leaving Home**$^{\text{n.s.}}$ | 15% | 14% | 14% |
| 11. **Casino Game Played** | | | |
| a. Baccarat$^{\text{n.s.}}$ | 3% | 4% | 4% |
| b. Bingo* | 13% | 9% | 9% |
| c. Blackjack$^{\text{n.s.}}$ | 58% | 64% | 63% |
| d. Dice$^{\text{n.s.}}$ | 30% | 27% | 27% |
| e. Keno* | 53% | 45% | 46% |
| f. Poker* | 21% | 13% | 14% |
| g. Roulette* | 11% | 18% | 18% |
| h. Slots$^{\text{n.s.}}$ | 84% | 82% | 82% |
| i. Sports Book$^{\text{n.s.}}$ | 4% | 3% | 3% |
| j. Wheel of Fortune* | 3% | 6% | 6% |
| k. Did Not Play$^{\text{n.s.}}$ | 3% | 4% | 4% |
| 12. **Gambling Budget** (Avg. per Trip)$^{\text{n.s.}}$ | $999 | $939 | $946 |
| 13. **Gambled Every Day*** | 93% | 89% | 89% |
| 14. **Places Gambled At** (Avg. per Trip)$^{\text{n.s.}}$ | 5.8 | 5.4 | 5.4 |
| 15. **Shows Attended** (Avg. per Trip)$^{\text{n.s.}}$ | 1.6 | 1.6 | 1.6 |
| 16. **Shopping** | | | |
| a. Strip Stores* | 18% | 30% | 29% |
| b. Downtown Stores* | 22% | 16% | 17% |
| c. Hotel Shops* | 18% | 29% | 28% |
| d. Enclosed Malls$^{\text{n.s.}}$ | 17% | 20% | 20% |
| e. Other Centers$^{\text{n.s.}}$ | 4% | 5% | 5% |
| f. Did Not Shop* | 44% | 37% | 38% |
| 17. **Las Vegas Recreation** (Sports Participation)* | 7% | 15% | 14% |
| 18. **Home Recreation** (Sports Participation)* | 49% | 59% | 57% |
| 19. **Use of Time**** | | | |
| a. Eating$^{\text{n.s.}}$ | 11% | 12% | 12% |
| b. Entertainment* | 7% | 9% | 9% |
| c. Gambling* | 39% | 37% | 37% |
| d. Meetings* | 2% | 5% | 4% |
| e. Recreation$^{\text{n.s.}}$ | 2% | 3% | 3% |
| f. Relaxing/Sleeping* | 23% | 21% | 21% |
| g. Shopping$^{\text{n.s.}}$ | 4% | 5% | 5% |
| h. Sightseeing$^{\text{n.s.}}$ | 4% | 4% | 4% |
| i. Visiting Friends/ Relatives$^{\text{n.s.}}$ | 3% | 2% | 2% |
| j. Other$^{\text{n.s.}}$ | 3% | 3% | 3% |
| 20. **Expenditures** (Active Avg/Day) | | | |
| a. Room* | $42 | $51 | $50 |
| b. Shows (Entertainment)$^{\text{n.s.}}$ | $38 | $43 | $43 |
| c. Food/Drink* | $29 | $35 | $34 |
| d. Gifts/Clothing$^{\text{n.s.}}$ | $42 | $39 | $39 |
| e. Ground Transportation* | $12 | $15 | $15 |
| 21. **Total Non-Gambling Expenditure** (Active Avg/Day)* | $121 | $143 | $140 |
| 22. **Non-Gambling Party Size** (Avg. No. Persons)$^{\text{n.s.}}$ | 2.0 | 1.9 | 1.9 |

* Statistically significantly different at the p = .05 level.

n.s. Not statistically significantly different at the p = .05 level.

** Indicates the percentage of time devoted to a particular activity.

## COMMERCIAL IMPACT

### Non-Gambling Impact

The average daily non-gambling expenditure per active retired party is $121.00. The average number of visitors in an active retired party is two persons. Therefore, the average daily non-gambling expenditure per person is about $60.00. Multiplying the average length of stay by the average daily expenditure (4.3 days x $60.00) produces the average expenditure per retiree, which is $258.00.

In 1981, the 1.5 million active retirees spent about $387 million in the Las Vegas economy. This direct expenditure will eventually contribute about $968 million (using a 2.5

gross multiplier) to the Las Vegas economy. The 2.5 gross multiplier is the midpoint of a range of commonly used economic impact multipliers. It was used in this project in order to be consistent with other studies of the Las Vegas Area, e.g., *The Ecomonic Impact of McCarran International Airport.* [7] The multiplier can be verified by using an input/output model such as that used by the State of Washington. [8] In addition, the 2.5 multiplier is more conservative than the 3.0 to 3.5 range commonly used by the tourism industry.[9]

**Gambling Impact**

The average daily gambling expenditure (alternatively referred to as budget, drop, bankroll, or amount customer is willing to lose) is about $232.00 ($999.00 visit drop ÷ 4.3 days stay) per active retired visitor. The total average trip gambling expenditure per retiree is $999.00. In 1981, the 1.5 million active retirees dropped an estimated $1.5 billion ($1.5 million x $999.00) producing an estimated house win of about $300 million (using a 20% hold ratio of drop, i.e., an estimation of players' losses in Las Vegas.)

The direct expenditure will eventually result in another $750 million ($300 million x 2.5 gross multiplier) being added to the Las Vegas economy. Therefore, the combined gambling and non-gambling expenditures in Las Vegas in 1981 by the active retiree visitors are estimated at $687 million directly and $1.7 billion eventually, including the indirect economic multiplier impact. The total direct impact represents about 14 percent of the total estimated direct visitor spending in Las Vegas in 1981. [9]

## NEW MARKETING PROGRAMS

**Marketing Framework**

Viable marketing programs are based on clearly articulated mission statements, specifically defined corporate goals and strategies, selected attractive strategic product-markets, identified market opportunities, targeted customer groupings, and detailed analyses of target needs, attitudes, socio-demographics, behavior, media preferences, and responses to alternative marketing programs.

**Project Application**

While much remains to be done in the resort industry in terms of making decisions paralleling the marketing management structure described above, conducting replication studies, and executing refined as well as studies of general applicability, the current project has demonstrated that active retirees represent a sizeable, growing, potentially lucrative market, and that retirees differ from other travelers in terms of needs and behavior as well as socio-demographics. It is expected that they would be sensitive to specialized programs that would provide benefits to meet their particular needs and life styles. Indeed, how retirees use their leisure time is to a great extent in the hands of corporate decision makers.

The information presented in this article could be used to forecast market and sales potentials as well as market shares for Las Vegas as a destination resort area. Industry-wide agencies such as the Las Vegas Convention/Visitors Authority could incorporate the active retiree target market and the data from this project in their overall marketing plans. Some specific examples of tactical implementation of similar programs already exist from experience with use of findings from the on-going Visitor Profile Study. These specific examples have to do with campaign development, travel agency communications, copy development, and advertising schedules.

The information presented herein could also be combined with a specific casino's in-house data. It could be determined if the active retirees present a viable target market in terms of management's objectives, goals, strategies, resources, competition, image, and experience. If the active retirees do present a viable target, then the specific hotel/casino can forecast the sales potential, market share, and contribution levels, given a specific marketing program. Elements of the program itself, such as product offering, distribution network, pricing packages, and promotion schedules, could be induced from the information generated in this project and—as in the case of the Convention Center—from experience with incorporating results of the Visitor Profile Study, specialized studies, and in-house studies into the unit's marketing plan.

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Active retirees represent an attractive marketing opportunity for the leisure industry. Resort destinations in particular, such as Las Vegas, can benefit from specialized marketing programs aimed at the active retiree market. An active retiree has the time, resources, and desire to travel and enjoy himself.

The active retiree is not the stereotype feeble and poor senior citizen. Indeed, in Las Vegas, the majority of active retiree visitors are less than 65 years of age. They are looking for experience, excitement, and meaningful activity. They want to mingle with other visitors, socialize with persons of all ages, and be treated courteously like any other guest.

Active retirees spend about 15 percent less per capita than other visitors. They tend to spend less on lodging, food, and ground transportation. Surprisingly, they tend to spend the same amount as other visitors on shows, gifts and clothing, and gambling. When compared only with convention visitors, active retirees spend about 25 percent less per day on non-gambling items, but approximately 50 percent more on gambling. [4]

The commercial impact of the retiree market is substantial. Empirical research conducted with active retirees visiting the Las Vegas market indicates that each retiree spends about $60 per day for non-gambling expenditures and loses another $46 on gaming for a total average daily expenditure of $106. In macro terms, the 1.5 million active retiree visitors contributed about $687 million directly to the Las Vegas economy in 1981. The eventual total economic impact on Las Vegas of the retiree market using a 2.5 gross multiplier is $1.7 billion.

The active retiree market is large and expanding. There were approximately 13 million active retirees in the United States in 1981. Active retirees comprise about 9 percent of all adults in the United States. By the year 2000, there will be 50 million retired persons over the age of 55. At least 50 percent of these retirees will be active, resulting in an active retiree market that will have doubled in size between 1980 and 2000.

Although Las Vegas attracts a relatively high percentage of active retirees compared to other adult visitors, it has captured only a small percentage of the total active retiree market potential. Currently, active retirees account for 12 percent of the Las Vegas visitor market. This is 3 percent above the national adult proportion of active retirees. However, in terms of different individuals, Las Vegas is attracting only about 652 thousand active retirees. This is equivalent to a 5 percent market share of the total active retiree market potential in the United States.

The capture rate of active retirees by Las Vegas varies across geographical areas. For example, 63 percent of the retiree visitors come from the Western Region of the United States. Furthermore, the three most productive states in the West—namely California, Arizona, and Utah—supply most (82%) of the 402 thousand different active retirees from the West. This indicates that Las Vegas is drawing about 20 percent of the active retirees residing in the West. This is about four times the market share rate of 5 percent for the entire United States.

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# Explaining Motivation Phenomena with The Effort-Net Return Model

*By Philip C. Grant**

*The Effort-Net Return (ENR) model provides a framework for interpreting a number of previously unexplained phenomena associated with employee motivation.*

## Introduction

Research continues trying to establish the correlation between employee job performance and employee job satisfaction. Some hypothesize that satisfaction leads to performance; some say performance leads to satisfaction. Others, recognizing the failure of studies to demonstrate a significant correlation, conclude there is no *relationship* between the two [4]. And so it goes—the debate, the argument—on and on with little progress towards resolution.

The purpose of the following discussion is to help resolve the issue by showing *how* performance and satisfaction are related, thus demonstrating *why* they are not positively correlated. It is the Effort-Net Return (ENR) model of motivation, first proposed by the author in 1979 [1] that provides the framework for this discussion.

## A Case of Non-Contingent Rewards

Consider Figure 1 which is drawn from the ENR construct. The horizontal line illustrates a common situation in which the value of all rewards (both intrinsic and extrinsic) received by an employee is perceived by that employee as essentially guaranteed (fixed). Rewards are seen as independent of the amount of effort expended. The tenured, sixty-year-old full professor may be a case in point. Also, unionized employees often operate under such a reward function.

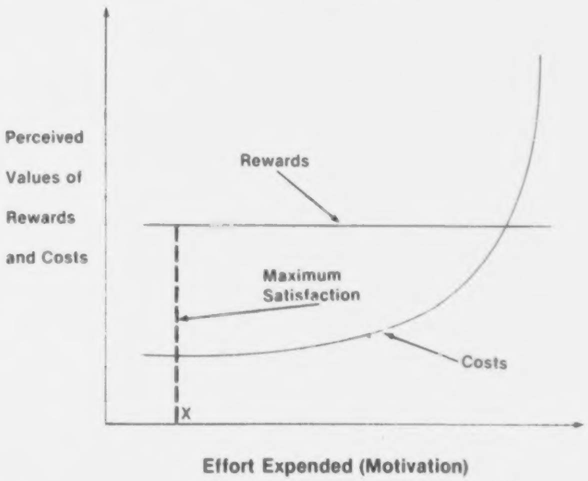
The sloped curve illustrates that as an employee increases on-the-job effort expenditure, the costs (stress, fatigue, boredom, etc.) associated with the effort are perceived by that employee to rise. The exact shape of this curve, of course, may differ from one situation to the next.

The distance between the reward and cost curves at any given level of expended effort represents net perceived value (net return) which is nothing more, nor less, than employee satisfaction at that level. According to ENR, an employee will strive—sometimes subconsciously—to exert the amount of effort that provides maximum satisfaction (minimal dissatisfaction). In Figure 1 it is obvious that maximum satisfaction is achieved at a very low level (point X) of motivation. Indeed, motivation and satisfaction in this figure are inversely associated!

Since performance is a function of motivation and the two show high positive correlation—few argue with this—it is clear that, in the above example, the *lower* the performance, the *higher* satisfaction.

FIGURE 1

**ENR Model: Non-contingent Rewards**



## A Case of Contingent Rewards

Consider Figure 2, which shows a different but none-the-less common situation. In this case, both rewards and costs are seen by the employee as contingent on effort expended. A piece rate worker, for instance, faces such a reward-cost structure. Managerial employees under a merit reward system also perceive contingent reward and cost functions.

Here the employee again seeks to maximize satisfaction. Maximization is now achieved at a relatively high level of motivation (point X). But the maximum amount of satisfaction experienced is small compared to the employee in Figure 1. This is a case of *high* performance and *low* satisfaction.

So what is happening? Are performance and satisfaction *negatively* correlated? No, not at all. Many workers

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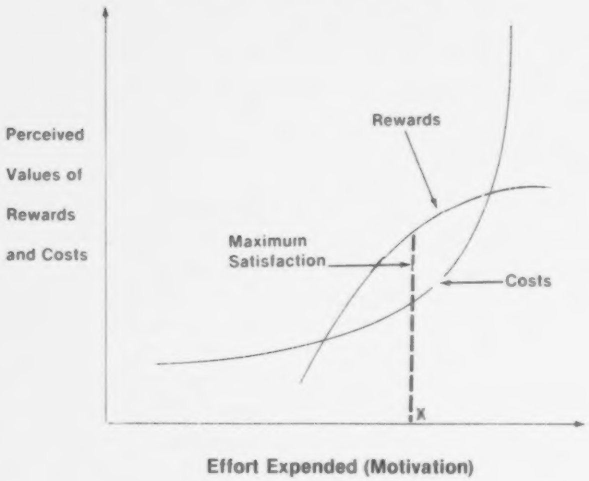
FIGURE 2

**ENR Model: Contingent Rewards**



experience low satisfaction and exhibit low performance simultaneously. Many also experience high satisfaction and exhibit high performance simultaneously. Any combination of satisfaction and performance levels can readily be found among employees.

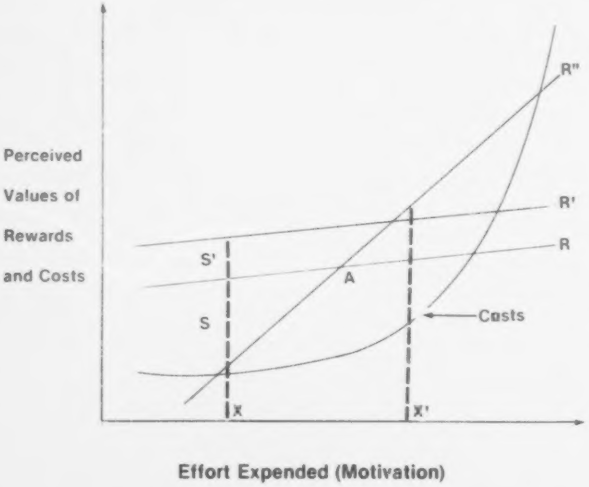
The reason for this is that satisfaction and motivation are, to a great extent, each determined by *different* and *independent* attributes of a reward curve.

**Height vs. Slope**

Consider Figure 3. If reward curve R is shifted to R'—a vertical translation—satisfaction is increased from S to S plus S'. But motivation remains the same since maximum satisfaction is still achieved at point X. Satisfaction changes; performance does not. The absolute level of rewards has nothing to do with motivation and performance. Changes in the "height" of the reward curve affect only the level of worker satisfaction. If an employee's wages are increased independent of performance, for example, that employee's satisfaction will increase but motivation will remain unchanged.

FIGURE 3

**ENR Model: Reward Curve Height vs. Slope**



If reward curve R is rotated about point A to position R''—a change in slope—motivation *will* be changed—increased from X to X'. It is the slope of the perceived reward curve that determines motivation. The greater the slope (the greater the contingency relation between effort and reward), the greater motivation and performance. This is because the point of maximum satisfaction is forced to the right—to a higher effort level—with an increase in slope. According to ENR, a manager can make rewards more motivational only by increasing the dependency of rewards on effort.

In this illustration the maximum amount of satisfaction possible is not appreciably changed by the angular transposition (R to R'') of the reward curve. Generally, however, the maximum amount of satisfaction possible will increase or decrease depending on the point about which the reward curve is rotated and on the degree of rotation. An in-depth analysis of this phenomenon is beyond the scope of this paper. It should be appreciated here, though, that even for an extremely "steep" reward function, satisfaction can well be low providing the function is sufficiently "close" to the cost curve.

Since in practice reward curves take on various slope-height combinations, various satisfaction-performance combinations must be expected.

Satisfaction and performance are *related:* one's motivation level depends on the level at which one perceives maximum satisfaction. This level can be high or low (or in-between). It depends on the slope of the reward curve. The absolute amount of satisfaction at maximization will be high or low (or in-between) depending on the height of the reward curve.

Thus, high satisfaction does not lead to high performance nor does high performance lead to high satisfaction. Performance and satisfaction are *not* positively correlated, each being principally linked to different and independent dimensions of reward structure.

As seen in the foregoing, development of the Effort-Net Return (ENR) model of motivation goes far towards clarifying the relations among employee motivation, satisfaction and performance. But the insights provided by the ENR conceptual foundation go well beyond this. A number of additional motivation-related phenomena, heretofore baffling, are easily interpreted with ENR.

The purpose of the remainder of this paper is to briefly address one of these phenomena. The ENR framework is used to illustrate how motivation is affected by a number of different reward-cost structures frequently encountered by employees.

**Effort Short of Capacity**

Most managers are only too aware of how difficult it is to achieve full utilization of human resource capacity. Regardless of the type of job, employees will exert amounts of effort short of their capacities for effort expenditure—frequently, *far* short. Even when an organization's reward system is of outstanding quality, no employee can be expected to produce at potential. From the employee's view, to do so would make no sense. The Effort-Net Return (ENR) model of motivation explains why.

FIGURE 4

Effort Short of Capacity

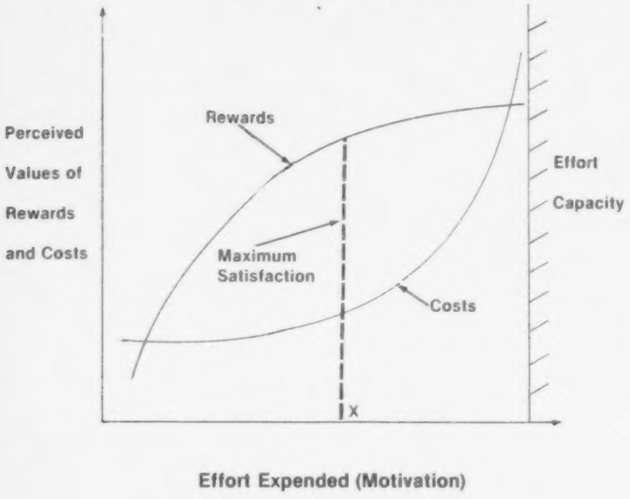
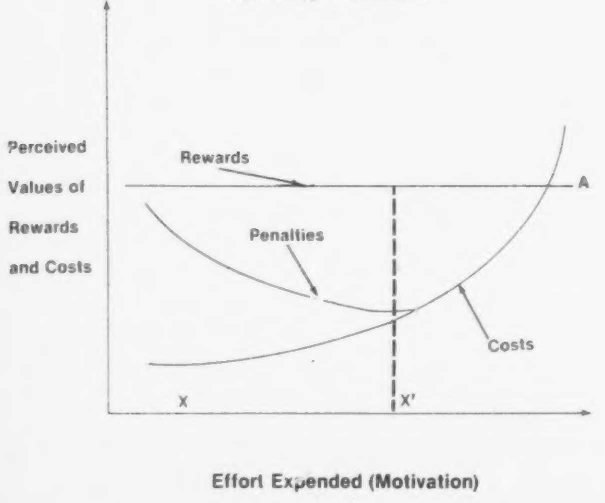


Figure 4 illustrates a common situation in which an employee perceives that rewards (both intrinsic and extrinsic) generally rise with increases in expended effort (motivation). As is typical, the rate of increase of rewards is shown to taper off at high levels of effort.

With increases in effort, the employee also perceives the costs associated with that effort to rise. Costs will increase rapidly as one becomes highly motivated and approaches effort capacity.

FIGURE 5

The Utility of Penalties



As stated earlier the difference between rewards and costs at any given level of effort represents employee satisfaction (net return) at that level and an employee will seek to exert an amount of effort that maximizes satisfaction. In Figure 4, point X marks the effort level that yields this maximization. Note, this effort level is considerably short of capacity. It is not in the employee's best interest to exert a higher amount of effort because of the fact that as one moves to the right of point X costs increase faster than rewards. The positively sloped cost curve forces the point of maximum satisfaction to the left of one's effort capacity.

Due to the costs, or negatively valued outcomes, associated with high effort, employees will not work to potential. Indeed, motivating employees to just moderate levels of effort requires that management give considerable attention to the design of cost structure as well as to reward design—a point often neglected in contemporary discourse on the subject.

### The Utility of Penalties

In recent years numerous psychologists and managers have discounted the value of penalties as a motivational tool. Citing the undesirable consequences of penalty, psychologists frequently recommend abandonment of this type of incentive as a component in the manager's motivational arsenal [3]. But penalties can and do play a useful and strategic role in motivating. ENR illustrates the point.

As noted earlier, when reward curves are horizontal, such as curve A in Figure 5, motivation will be low—that is, *unless* management takes action. Management can increase motivation by manipulating the costs experienced by the employee. By "bending up" the cost curve at low levels of effort the point of maximum satisfaction can be shifted to the right—in this example, from X to X'. This upward bending can be accomplished by introducing penalties which are inversely associated with effort. By increasing the penalty (criticism, points toward demotion, etc.) as performance drops off, the point of maximum satisfaction is realized at a higher effort level. A negatively sloped cost curve has the same impact on motivation and performance as a positively sloped reward curve.

The point must be emphasized that although penalties do reduce satisfaction, they can be of considerable utility for motivating. To cite an extreme example, chain gang workers are usually highly motivated but perceive little satisfaction! Importantly, penalties *must* be exercised to stimulate high motivation when rewards are fixed as in Figure 5.

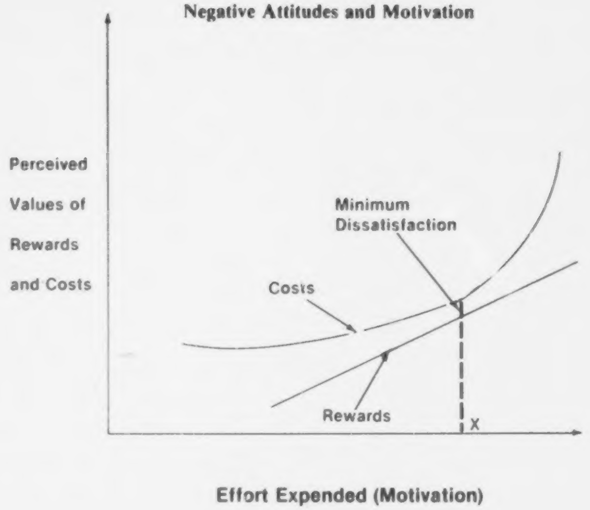
### Negative Attitudes and Motivation

It is frequently asserted that an employee with entirely negative attitudes toward employment cannot be motivated; negative attitudes promote low motivation. Such is not at all true, however. One can have intense negative attitudes toward all phases of work and still be a top producer. Why this is so is easily understood by reference to Figure 6.

Illustrated in this figure is a situation where an employee perceives costs to be in excess of rewards at all levels of effort expenditure. The employee experiencing such a

FIGURE 6

Negative Attitudes and Motivation



reward-cost structure can find no level of effort that yields a positive net return. The employee can sense only dissatisfaction. Regardless of effort level one's attitudinal posture is that of negativism.

In such a situation as this the employee will seek to minimize dissatisfaction. Minimizing dissatisfaction is a special case of general attitudinal optimization for which all employees strive. One will search for that level of effort where the difference between rewards and costs is least. In Figure 6 that level is at point X which in this example—and this is not uncommon—is at a relatively high level of motivation.

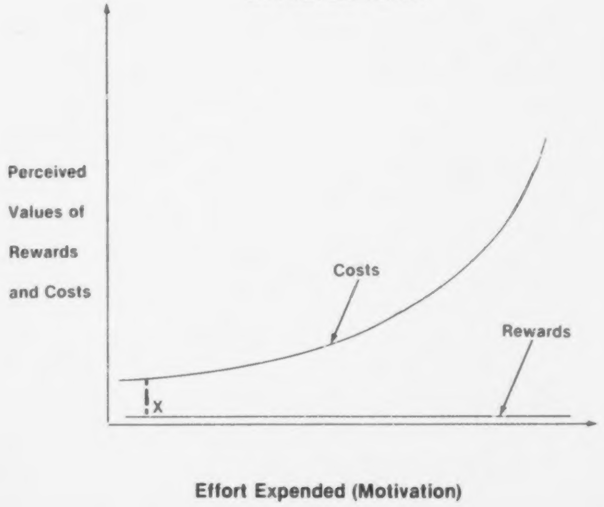
Though negative attitudes contribute to high turnover, absenteeism and grievances [2], they need not be associated with low on-the-job motivation and performance.

**Low Reward Valence**

In order for contingent rewards to motivate, those rewards must be perceived by the employee to be high in value [5]. The greater the value of rewards the greater their motivational force. Unvalued rewards will not motivate. Promising an employee a promotion, for example, does nothing for motivation if the employee does not want a promotion. Many students of motivation recognize this, but how is it explained?

FIGURE 7

Low Reward Valence



Additional increments of a highly valued reward cause the perceived reward function to rise more sharply than additional increments of a little valued reward. Perceived value impacts on reward function slope. The greater the value, the greater the slope and the greater motivation.

When rewards have no value, motivation will necessarily be low if not non-existent. The phenomenon is explained in ENR terms in Figure 7.

If one unit of a reward is not valued, then multiple units will also have no value (zero times any number is still zero). Rewards with no value fail to motivate irrespective of how much is received by the employee. This is because the perceived reward curve is horizontal and virtually on top of the horizontal axis. Under these conditions the employee seeks that effort level associated with the shortest distance between the cost and reward curves. That level, point X in Figure 7, is very low. This is a special case of dissatisfaction minimization with dissatisfaction being minimized when cost is minimized.

**Conclusion**

ENR treats motivation as a function of the difference between perceived rewards and perceived costs. If costs rise with increased effort expenditure, so must rewards. If one is to be highly motivated the reward function must have a positive slope sufficient to offset the accelerating costs encountered at high effort levels and to force the point of maximum satisfaction far to the right. If the reward function cannot be adequately sloped, then motivation can be achieved through cost function design by reducing the stress, fatigue, boredom, etc., one experiences at high effort levels or by making costs an inverse function of effort (using penalties) at low effort levels.

The ENR model thus serves to explain a number of phenomena previously addressed inadequately. At the same time it is entirely consistent with all major research findings. Its unique value is in providing a theoretic base with a measure of integration and understanding long absent from the field.

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# Survey of Changes in Lifestyles and Energy-Saving Measures Adopted in Nevada Households

*by Patricia A. Tripple**

[*Editor's Note:* This study was funded by the Agriculture Experiment Station, University of Nevada, Reno.]

**Introduction**

In March, 1981, questionnaires were mailed to a stratified random sample of households in the State of Nevada to determine attitudes and behavior relative to energy conservation. This article summarizes the results of the survey based upon 739 useable, completed mail questionnaires.

The questionnaire was administered to approximately equal sized samples of urban (744) and rural (757) residents whose names were drawn from telephone directories using random procedures.[1]

The adjusted overall response rate was 49.2 percent, detailed as follows:

| | Rural Strata | Urban Strata | Unidentified | Total |
|---|---|---|---|---|
| Usable responses received | 413 | 322 | 4 | 739 |
| Questionnaires mailed | 757 | 744 | | 1501 |
| Questionnaires not delivered and those sent to ineligibles | 135 | 130 | | 265 |
| Net | 622 | 614 | | 1236 |
| Response rate | 66% | 52% | | 59.8% |

**Demographics**

Of those completing the survey, 66 percent were males and 34 percent females. Fifty-eight percent of the households consisted of one or two persons. Homes were predominately (65%) one-family detached houses. In descending order other types were mobile homes, trailers (11%), buildings for two to four households (11%), buildings for five or more households (9%) and finally, three percent indicated living in yet another type of building.

The respondents were grouped into four aging situations. Persons 18 through 34 years of age were 26 percent of the respondents, the 35 through 44 year group 22 percent, 45 through 64 years of age 37 percent, while the 65 through 98 years of age group represented 16 percent. Ten percent reported an income of less than $10,000; 26 percent $10,000 through $19,999; 33 percent, $20,000 through $29,999; while 31 percent reported a gross 1980 family income of $30,000 or more.

Fifty-two percent of the respondents indicated they had lived in their present home three years or less. Fifty-one percent indicated their home was constructed in 1970 or later with only nine percent indicating their home had been built prior to 1950.

Thirty-two percent of the respondents indicated they lived in a home of 1,001 to 1,500 square feet, while 29 percent indicated their home had 1,501 to 2,000 square feet.

**Cutbacks in Household Activities**

Respondents were asked to indicate the degree of change in their lifestyles due to the increase in the cost of energy over the past five years.

A five point Likert-type scale was used with the response categories ranging from "a lot worse than it was" to "a lot better than it was." Sixty percent of the respondents indicated they felt their life was "a little worse than it was" while 23 percent indicated "no effect", 15 percent "a lot worse" and 2 percent "a little better than it was."

To ascertain the adjustments households have made to compensate for rising energy costs, respondents were asked to indicate the extent (from "none" to "a lot" on a four point scale) to which they had to cut back on eleven different areas of expenditures or activities.

The items most often identified with "none" at the level of cutbacks were education (78%), health care (68%), housing (50%), and groceries (37%). Each of these is an area associated with a major quality of life orientation. The items most often identified as being cut back "a lot" were money put in savings accounts (43%), vacations (36%), meals out (31%), and purchase of appliances or furnishings (30%). These items tend to be discretionary or postponable without immediate adverse effect on quality of life. It is notable that 26% indicated that driving had been reduced "a lot." The results are summarized in Table 1.

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### TABLE 1

### Cutbacks Made in Household Activities and Expenditures Due to Higher Energy Costs, From Least to Most, Percent of Responses

| Cutbacks | | Percent |
|---|---|---|
| Education | None | 77.5 |
| | A Lot | 4.5 |
| Health Care | None | 67.7 |
| | A Lot | 8.7 |
| Housing | None | 50.5 |
| | A Lot | 14.2 |
| Groceries | None | 37.2 |
| | A Lot | 9.4 |
| Appliances and Furnishings | None | 28.8 |
| | A Lot | 30.5 |
| Clothing | None | 23.3 |
| | A Lot | 26.8 |
| Meals Eaten Out | None | 21.7 |
| | A Lot | 31.3 |
| Vacations | None | 19.5 |
| | A Lot | 35.6 |
| Recreation | None | 19.5 |
| | A Lot | 27.3 |
| Money Saved | None | 17.3 |
| | A Lot | 43.0 |
| Driving | None | 12.3 |
| | A Lot | 26.0 |

## Energy Saving Features for the Home

The most common implemented energy saving feature was "good weather-stripping and caulking on most doors and windows" (59%). Following closely were "insulation in outside walls" (58%) and "more than four inches of ceiling insulation" (54%). The two least common items were "solar hot-water heater" (2%) and "solar heating" (less than 1%). The findings are summarized in Table 2.

### TABLE 2

### Existing Energy-Saving Measures (Collapsing "Existed When I Moved In" with "Added Since I Moved In" Responses) Order of Prevalance. Percentage of Responses.

| Energy-Saving Measures: | Percentage of Responses |
|---|---|
| Good weatherstripping and caulking on most doors and windows | 59 |
| Insulation in outside walls | 58 |
| More than 4 inches of ceiling insulation | 54 |
| Double panes or storms on most windows | 37 |
| Thick floor insulation | 31 |
| Insulated window coverings | 29 |
| Storm doors on all entrances | 23 |
| Outdoor window shades | 20 |
| Wood-burning stove | 19 |
| Evaporative cooler | 19 |
| Glass doors on fireplaces | 18 |
| Clock set-back thermostats | 12 |
| Solar hot-water heater | 2 |
| Solar heating | 0.4 |

The listing of features respondents planned to add within two years was headed by good weather stripping and caulking (20%), storm doors on all entrances (15%), double panes or storms on most windows (14%), and solar hot-water heater (12%). The features with the fewest commitments were insulation in outside walls and evaporative cooler, each identified by four percent of the respondents, followed by thick floor insulation and glass doors on fireplaces each mentioned by five percent. The findings are summarized in Table 3.

Five energy-saving measures were identified by over fifty percent of the respondents as "doesn't exist and no plans to add within two years." The measures are solar heating (62%), clock set-back thermostats (60%), solar hot-water heater (56%), evaporative cooler (55%), and outdoor window shades (53%).

### TABLE 3

### Home Energy Features Which Are Planned to be Added Within Next Two Years (by April 1983) Order of Prevalence. Percentage of Responses.

| Energy-Saving Measures: | Percentage of Responses |
|---|---|
| Good weatherstripping and caulking on most doors and windows | 20 |
| Storm doors on all entrances | 15 |
| Double panes or storms on most windows | 14 |
| Solar hot-water heater | 12 |
| More than 4 inches of ceiling insulation | 10 |
| Solar heating | 8 |
| Outdoor window shades | 8 |
| Wood-burning stove | 8 |
| Clock set-back thermostats | 8 |
| Insulated window coverings | 7 |
| Glass doors on fireplaces | 5 |
| Thick floor insulation | 5 |
| Evaporative cooler | 4 |
| Insulation in outside walls | 4 |

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*Footnotes:*

[1] In order to draw the samples from telephone directories, a procedure was followed whereby all telephone directories for the urban and rural strata were identified. Based upon population estimates for the area covered by each directory, it was determined how many households should be drawn from that directory. Next, page numbers and position of the name on the page were drawn based on a random numbers program.

# Private Sector Training and Placement Opportunities for Washoe County CETA

*by James L. Walker, Georgia K. White, and Claire H. Young**

[*Editor's Note:* This paper is based on a study commissioned by the Washoe County Employment and Training Department and conducted by the staff of the Bureau of Business and Economic Research, College of Business Administration, University of Nevada, Reno. The complete study is available from the Bureau of Business and Economic Research.]

## I. Introduction

Many employers in the Reno/Sparks metropolitan area have had continuing problems obtaining trained and/or trainable personnel, particularly for entry-level semi-skilled and skilled occupations. To assist in meeting these needs and those of the disadvantaged in Washoe County, the Washoe County Employment and Training Department initiated efforts to expand and develop training/placement programs and to apply the Targeted Jobs Tax Credit program to the private sector. The purpose of this study is to provide a factual information base to facilitate the development of these private sector programs.

The study's personal interviews with Washoe County private sector employers focused on entry-level skilled or semi-skilled occupations. The survey gathered information in an attempt to assess local firms' labor needs and the availability of such labor within the community, to determine specific training needs related to the identified occupations, and to determine the potential for a relationship between the firms and the Washoe County Employment and Training Department.

In order to gather the necessary information, a three-tiered approach was used. First, a mail survey was conducted in order to determine private sector employer interest in CETA programs. Approximately 2,200 questionnaires were mailed to private sector employers. Second, 102 in-depth personal interviews were conducted with firms whose response to the survey indicated an interest in CETA. Third, a mail survey of firms not selected for in-depth personal interviews was completed. The data from the questionnaires were coded and computer-analyzed using the statistical program for the social sciences (SPSS) at the University of Nevada, Reno.

Highlights from the results of the study analyzed by occupation and industry are presented below. The analysis provides an overview of how firms that indicated willingness to be interviewed regard employment opportunities for Washoe County CETA clients. The survey results cannot be used to project how the full population of firms in Washoe County would respond to the survey due to methods used to obtain respondents. In addition, it should be pointed out that the identification of entry level positions was made by the firms. While most of these positions would appear to be appropriate for CETA clients, only the CETA staff is in a position to verify this through follow-up interviews and negotiations with employers.

TABLE 1

**Occupational Distribution of Positions**

| Occupation | Number of Positions | Percentage Distribution |
|---|---|---|
| Prof-Managerial | 7 | 3.7 |
| Clerical | 46 | 24.5 |
| Service | 46 | 24.5 |
| Machine Trades | 14 | 7.4 |
| Benchwork | 6 | 3.2 |
| Structural Work | 1 | .5 |
| Technical | 2 | 1.1 |
| Sales | 21 | 11.2 |
| Bank Teller-Other | 8 | 4.3 |
| Misc/Other* | 37 | 19.7 |
| Total | 188 | 100.0 |

*Includes: Domestic; Farm/Fish, Forestry; Processing, Motor Freight/Transportation; Packaging & Material Handling; Other

## II. Entry-Level Job Opportunities

The 114 survey firms identified a total of 188 types of

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entry-level positions. These are listed in Table 1 and distributed by industry in Table 2. By far, the majority of entry-level positions were in the clerical, service, sales and miscellaneous-other occupations and the manufacturing, wholesale trade, retail trade, financial-insurance-real estate, hotel-gaming and other services industries.

It was anticipated that almost 2200 entry-level jobs would be available during the coming year. The occupations with the most job openings included services, sales and miscellaneous-other. The retail trade, finance-insurance-real estate and hotel-gaming were the industries with the most openings. Job opportunities are identified in Table 3.

### TABLE 2

### Industrial Distribution of Positions

| Occupation | Number of Positions | Percentage Distribution |
|---|---|---|
| Construction | 3 | 1.6 |
| Manufacturing | 22 | 11.7 |
| Transportation | 6 | 3.2 |
| Warehousing | 7 | 3.7 |
| Public Utilities | 1 | .5 |
| Wholesale Trade | 20 | 10.6 |
| Retail Trade | 24 | 12.8 |
| Finance-Insurance-Real Estate | 32 | 17.0 |
| Hotel-Gaming | 25 | 13.3 |
| Other Services | 35 | 18.6 |
| Government | 5 | 2.7 |
| Other | 8 | 4.3 |
| Total | 188 | 100.0 |

### TABLE 3

### Job Opportunities by Occupation and Industry

| Occupation | Number of Positions | Number of Job Openings Over Next Year |
|---|---|---|
| Clerical | 46 | 157 |
| Service | 46 | 357 |
| Machine Trades | 14 | 157 |
| Sales | [illegible] | 705 |
| Misc/Other | 37 | 452 |
| **Industry** | | |
| Manufacturing | 22 | 204 |
| Wholesale Trade | 20 | 35 |
| Retail Trade | 24 | 772 |
| Finance-Insurance-Real Estate | 32 | 362 |
| Hotel-Gaming | 25 | 279 |
| Other Services | 35 | 40 |

A majority of employers anticipated major expansions over the next five years. The positions with the highest proportions anticipating expansions were in the machine trades and clerical occupations and finance-insurance-real estate and retail trade industries. Table 4 shows the percent anticipating expansion over the next five years by occupation and by industry.

### TABLE 4

### Expected Expansions

| Occupation | Percent Anticipating Expansions Over Next Five Years |
|---|---|
| Clerical | 66 |
| Service | 60 |
| Machine Trades | 80 |
| Sales | 57 |
| Misc/Other | 54 |
| **Industry** | |
| Manufacturing | 52 |
| Wholesale Trade | 32 |
| Retail Trade | 63 |
| Finance-Insurance-Real Estate | 75 |
| Hotel-Gaming | 60 |
| Other Services | 57 |

Median starting wages ranged from minimum wage to over $9.00 per hour. The median starting wages by occupation and industry ranged from $4.50 to $5.30 per hour. The median ceiling wage within a position ranged from $5.60 to $7.80 per hour. The median ceiling wage was highest in the machine trades and miscellaneous-other occupations and the manufacturing, finance-insurance-real estate and other services industries. Wage statistics are presented in Table 5.

### TABLE 5

### Wage Statistics

| Occupation | Median Starting Wage | Median Ceiling Wage |
|---|---|---|
| Clerical | $4.90 | $6.50 |
| Service | 5.00 | 6.50 |
| Machine Trades | 4.90 | 7.80 |
| Sales | 4.70 | 6.30 |
| Misc/Other | 5.00 | 7.00 |
| **Industry** | | |
| Manufacturing | 4.70 | 6.50 |
| Wholesale Trade | 5.30 | 6.30 |
| Retail Trade | 4.50 | 6.20 |
| Finance-Insurance-Real Estate | 4.90 | 6.50 |
| Hotel-Gaming | 4.50* | 5.60* |
| Other Services | 4.60 | 6.90 |

*Reported wages do not include tips

Approximately 50 percent of the wage reviews were conducted within three months on the job.

In most industries and occupations, there were opportunities to be upgraded beyond the entry-level positions and into wage scales that were above the entry-level position wage ceilings.

Since advancement opportunities are relatively abundant in all occupations and industries, the ceiling wage may well be the best overall indicator of economic desirability of a particular position. However, other relevant job and CETA client characteristics such as job stability, prospects for advancement, educational and skill levels, etc., should also be considered. The narrow ranges in median values for many of the job characteristic data when analyzed by occupation and industry suggest that Washoe County Employment and Training could locate many desirable job placement and training opportunities within the clerical, service, machine trades, sales and miscellaneous-other occupations and the manufacturing, wholesale trade, retail trade, finance-insurance-real estate, hotel-gaming and other services industries.

When evaluating job placement and training opportunities by individual firm, it was recommended that Washoe County CETA use the job characteristic median values developed by this study to establish minimally acceptable wage levels.

Overall, a substantial number of the anticipated entry-level-job opportunities were open to CETA applicants. Some 900 entry-level job openings were said to be open for CETA client interviews over the next year. Almost 800 jobs would be open over the next year to clients who completed CETA on-the-job training.

### III. Entry Level Job Qualifications

The survey revealed that employers were very concerned that job candidates have the basic verbal and mathematical skills which are normally associated with a high school education. This is viewed as essential for successful performance in most entry-level positions and for advancement. The higher paying positions have above average educational requirements. Therefore, efforts to encourage clients to complete high school or its equivalent are of utmost importance and should be emphasized.

The high percentage of positions (82 percent) *not* requiring or preferring (69 percent) training prior to employment indicates that there is definitely room for CETA applicants who are not highly skilled or trained. Furthermore, work experience was not required for 85 percent of the positions surveyed. Of those positions requiring work experience, the majority required one year.

Job hiring requirements do exist but for some 81 percent of the positions surveyed, other factors may be substituted for those usually demanded. Specifically, desirable personality characteristics (e.g., ability to work with people, pleasant personality, positive attitude towards work, good appearance, ambition, common sense, desire to learn, and self motivation) and basic skills would be accepted in lieu of the usual hiring requirements. This suggests that the CETA Employment Preparation Workshop is an especially important program. Its importance is reinforced by the general employer view that CETA clients are perceived to need more job preparation skill development.

Training programs existed in 57 percent of the industries surveyed. However, most training currently provided was informal and on-the-job. Many of those without training programs indicated an interest in developing them.

### IV. Employee Turnover As a Problem

High employee turnover was viewed as a substantial problem by employers. While transiency was cited as a major cause or reason, pay and promotion were also prevalent. Through the Employment Preparation Workshop, CETA clients should be instructed as to the value of job stability. Also, clients should be instructed to extract information during the initial hiring interview regarding pay and promotion so that they will know whether the job would provide long-run satisfaction. If CETA could then demonstrate to the business community that their clients have lower turnover rates, CETA would become a more valuable source of employees.

### V. Cooperative Involvement Opportunities

Opportunities for direct involvement of the private sector in CETA programs were assessed positively. Instructors, facilities, expertise and financial assistance were offered for

TABLE 6

**Percentage of Firms Desiring to Participate in The Development of Training Programs**

| | ENTRY LEVEL | | | | UPGRADING | | | |
|---|---|---|---|---|---|---|---|---|
| **Industry** | **Provide Training Instructors** | **Provide Facilities** | **Sharing Expertise** | **Financial Contribution** | **Provide Training Instructors** | **Provide Facilities** | **Sharing Expertise** | **Financial Contribution** |
| Manufacturer | 25.0% | 38.5% | 76.9% | 23.1% | 16.7% | 16.7% | 25.0% | 18.2% |
| Wholesale Trade | 18.2 | 36.4 | 90.9 | 9.1 | 9.1 | 18.2 | 18.2 | 9.1 |
| Retail Trade | 14.3 | 14.3 | 42.9 | 21.4 | 14.3 | 7.1 | 14.3 | 0 |
| Finance-Insurance-Real Estate | 27.8 | 16.7 | 44.4 | 5.6 | 5.6 | 5.6 | 16.7 | 0 |
| Hotel-Gaming | 22.2 | 40.0 | 80.0 | 10.0 | 0 | 22.2 | 25.0 | 0 |
| Other Services | 12.5 | 12.5 | 56.3 | 12.5 | 6.3 | 0 | 12.5 | 0 |

both CETA training and upgrading programs by a large number of the firms.

As can be seen from Table 6, potential private sector contributions (especially in the area of sharing expertise) are substantial. Even in the area of financial contributions, assistance was offered by many firms (particularly for entry level training). Overall, 25 percent of the firms offered training facilities, 62 percent offered to share their expertise in developing the programs, 14 percent offered financial contributions and 21 percent offered training instructors. For upgrading programs 10 percent offered training instructors, 12 percent offered facilities and 21 percent offered to share expertise.

### Summary and Conclusion

There are many opportunities for CETA clients in Washoe County. It is indicated that 900 entry-level job openings will be available to CETA clients over the coming year. Approximately 800 openings for those completing on-the-job programs were identified. The positions available are in a broad range of industries and occupations. Furthermore, advancement beyond the entry-level position is possible for the vast majority of positions. Job qualifications for entry-level positions are encouraging as far as the CETA client is concerned. Many of the skills developed in the Employment Preparation Workshop are important, and CETA's efforts to encourage high-school equivalency and skills are critical. The serious problem of employee turnover is an area that CETA may focus on during the Employment Preparation Workshops.

Finally, there is every reason to expect that CETA can prosper in face of the funding changes occurring nationally. The potential for private sector contributions in many areas of the CETA programs is impressive. The private sector recognizes the need for and importance of CETA programs.

Crucial to the success of CETA is its ever present need to communicate what it does, the type of programs it has available and responsibilities of participating employers, as well as benefits obtainable. If this is accomplished, then the tremendous opportunities for Washoe County CETA will materialize.

Washoe County CETA can provide needed assistance to its clients as well as to the general community. Accomplishing this in view of the changing trends in CETA administration nationally will be the challenge of the future.

# Nevada Economic Indicators

## Statewide Statistical Data

| | | | | | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | October 1981 | November 1981 | December 1981 | 4th Quarter 1981 | 3rd Quarter-1981 4th Quarter-1981 | 4th Quarter-1980 4th Quarter-1981 |
| Total Labor Force (000's) | 403.6 | 406.7 | 411.1 | 407.1 | + 1.9 | + 6.7 |
| Total Employment (000's) | 376.2 | 375.9 | 377.6 | 376.6 | + .8 | + 5.5 |
| Unemployment (000's) | 27.3 | 30.8 | 33.5 | 30.5 | + 17.9 | + 26.7 |
| Unemployment Rate | 6.8 | 7.6 | 8.1 | 7.5 | + 16.0 | + 18.4 |
| Unemployment Rate (Seasonally Adjusted) | 7.2 | 7.8 | 7.6 | 7.5 | + 11.3 | + 23.5 |
| Agricultural Empl. (000's) | 5.2 | 4.1 | 3.8 | 4.4 | − 33.2 | −0− |
| Establishment Based Industrial Employment | | | | | | |
| Total All Industries (000's) | 425.0 | 423.2 | 420.8 | 423.0 | + .1 | + 4.3 |
| Mining | 8.0 | 8.0 | 8.0 | 8.0 | − .8 | + 8.1 |
| Contract Construction | 25.1 | 24.2 | 23.6 | 24.3 | − 6.7 | − 5.8 |
| Manufacturing | 19.9 | 19.9 | 19.8 | 19.9 | − 1.2 | + 1.7 |
| Transportation & Utilities | | | | | | |
| Transportation | 13.5 | 13.4 | 13.4 | 13.4 | − .5 | + 3.3 |
| Railroads | 1.6 | 1.6 | 1.6 | 1.6 | −0− | −0− |
| Air | 3.1 | 3.0 | 3.0 | 3.0 | − 3.2 | − 1.1 |
| Public Utilities | 12.1 | 12.1 | 12.2 | 12.1 | − .3 | + 4.6 |
| Total Trade | 86.9 | 88.0 | 89.7 | 88.2 | + 1.3 | + 7.4 |
| Wholesale Trade | 13.2 | 13.1 | 13.2 | 13.2 | − 1.5 | + .8 |
| Retail Trade | 73.7 | 74.9 | 76.5 | 75.0 | + 1.8 | + 8.6 |
| Finance, Ins., Real Estate | 18.5 | 18.4 | 18.4 | 18.4 | − .7 | + 2.4 |
| Service Industries | 181.9 | 180.1 | 176.5 | 179.5 | − 1.0 | + 6.0 |
| Hotels, Amusement and Recreation Combined | 123.1 | 121.4 | 117.7 | 120.7 | − 1.6 | + 6.2 |
| Medical and Health | 14.2 | 14.3 | 14.4 | 14.3 | + 2.1 | + 7.2 |
| Total Government | 59.1 | 59.1 | 59.2 | 59.1 | + 6.6 | + .7 |
| Federal | 10.4 | 10.3 | 10.1 | 10.3 | − 2.5 | − 1.9 |
| State and Local | 48.7 | 48.8 | 48.9 | 48.8 | + 8.6 | + 1.0 |
| Education | 20.8 | 21.0 | 21.1 | 21.0 | + 25.5 | + .3 |
| Average Weekly Earnings in Selected Industries | | | | | | |
| Mining | 445.71 | 489.95 | 441.29 | 458.98 | + 2.7 | + 11.7 |
| Construction | 570.55 | 552.45 | 580.56 | 567.85 | − 1.2 | + 12.5 |
| Manufacturing | 344.42 | 335.63 | 345.25 | 341.77 | + 3.2 | + 11.8 |
| Public Utilities | 409.24 | 411.65 | 417.77 | 412.89 | + .8 | + 13.1 |
| Trade | 245.73 | 246.68 | 243.62 | 245.34 | − 2.5 | + 8.6 |
| Average Weekly Hours in Selected Industries | | | | | | |
| Mining | 41.5 | 44.1 | 39.9 | 41.8 | + 2.2 | + .8 |
| Construction | 34.6 | 33.3 | 35.4 | 34.4 | − 3.8 | − 1.9 |
| Manufacturing | 38.1 | 37.5 | 39.1 | 38.2 | − .4 | − .9 |
| Public Utilities | 40.2 | 40.2 | 41.2 | 40.5 | − 2.6 | −0− |
| Trade | 33.8 | 33.7 | 33.1 | 33.5 | − 3.3 | + .7 |
| Average Hourly Earnings in Selected Industries | | | | | | |
| Mining | 10.74 | 11.11 | 11.06 | 10.97 | + .5 | + 10.8 |
| Construction | 16.49 | 16.59 | 16.40 | 16.49 | + 2.7 | + 14.7 |
| Manufacturing | 9.04 | 8.95 | 8.83 | 8.94 | + 3.6 | + 12.9 |
| Public Utilities | 10.18 | 10.24 | 10.14 | 10.19 | + 3.5 | + 13.1 |
| Trade | 7.27 | 7.32 | 7.36 | 7.32 | + .8 | + 7.9 |
| Construction Activity | | | | | | |
| Residential ($000's) | 75,200 | 43,200 | 46,600 | 165,000 | − 27.8 | − 34.1 |
| Nonresidential ($000's) | 72,400 | 20,000 | 22,600 | 115,000 | + 25.7 | + 26.7 |
| Nonbuilding ($000's) | 6,900 | 6,100 | 44,700 | 57,700 | + 159.9 | + 57.7 |
| Total ($000's) | 154,500 | 69,300 | 113,900 | 337,700 | − 1.3 | − 10.6 |
| # of New Dwelling Units | 717 | 817 | 1,068 | 2,602 | − 3.6 | − 17.3 |
| Banking Activities ($000,000's) | | | | | | |
| Loans | 2,097 | 2,062 | 2,046 | 2,068 | + 4.7 | + 7.4 |
| Investments | 661 | 654 | 668 | 661 | − .2 | − 5.7 |
| Total Deposits | 2,822 | 2,806 | 2,862 | 2,830 | + 3.8 | + 5.7 |
| Demand Deposits | 976 | 957 | 1,016 | 983 | + 2.3 | − 11.2 |
| Time & Savings Deposits | 1,844 | 1,843 | 1,843 | 1,843 | + 4.7 | + 17.9 |

## Statewide Statistical Data (Continued)

| | October 1981 | November 1981 | December 1981 | 4th Quarter 1981 | PERCENT CHANGE<br>3rd Quarter-1981<br>4th Quarter-1981 | <br>4th Quarter-1980<br>4th Quarter-1981 |
|---|---|---|---|---|---|---|
| Tax Collections ($) | | | | | | |
| Liquor | 1,205,681 | 1,102,222 | 872,606 | 3,180,509 | + 7.9 | + 6.1 |
| Cigarette | 1,307,213 | 1,385,907 | 1,105,855 | 3,798,975 | + 6.8 | + 12.9 |
| Fuel | 3,405.356 | 2,922,936 | 2,521,909 | 8,850,201 | − 3.7 | + 62.0 |
| Taxable Sales ($000's) | – | – | – | 1,690,806 | − 3.1 | − 1.9 |
| Gaming Revenues ($000's) | – | – | – | 599,632 | − 12.9 | + 1.8 |
| Telephones in Service | NA | NA | NA | NA | NA | NA |
| Highway Traffic Flow | | | | | | |
| 17 Selected Stations (Avg. Daily) | 105,730 | 92,739 | 89,802 | 96,090 | − 25.3 | − 1.0 |
| Prices Received by NV Farmers | | | | | | |
| Sheep (CWT) | 15.00 | 17.00 | 18.00 | 16.67 | − 3.8 | + 4.2 |
| Lambs (CWT) | 51.00 | 47.00 | 50.50 | 49.50 | − 13.9 | − 19.3 |
| Beef Cattle (CWT) | 46.90 | 48.80 | 47.00 | 47.57 | − 11.8 | − 22.7 |
| Veal Calves (CWT) | 56.00 | 60.00 | 64.00 | 60.00 | − .6 | − 14.7 |
| Alfalfa Hay (baled ton) | 70.00 | 75.00 | 74.00 | 73.00 | − 9.9 | − 24.2 |
| Other Hay (baled ton) | 55.00 | 60.00 | 60.00 | 58.33 | − 10.3 | − 24.2 |
| Wool (lb) | .75 | .75 | .75 | .75 | − 1.7 | − 3.8 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Las Vegas Standard Metropolitan Statistical Area

| | October 1981 | November 1981 | December 1981 | 4th Quarter 1981 | PERCENT CHANGE 3rd Quarter-1981 4th Quarter-1981 | PERCENT CHANGE 4th Quarter-1980 4th Quarter-1981 |
|---|---|---|---|---|---|---|
| Total Labor Force (000's) | 223.6 | 226.3 | 229.8 | 226.6 | + 3.2 | + 8.0 |
| Total Employment (000's) | 206.5 | 207.8 | 209.3 | 207.9 | + 2.4 | + 7.3 |
| Unemployment (000's) | 17.0 | 18.5 | 20.5 | 18.7 | + 14.1 | + 19.7 |
| Unemployment Rate | 7.6 | 8.2 | 8.9 | 8.2 | + 10.8 | + 10.8 |
| Unemployment Rate (Seasonally Adjusted) | 7.8 | 8.5 | 8.7 | 8.3 | + 12.6 | + 11.6 |
| Agricultural Employment (000's) | .8 | .6 | .6 | .7 | – 33.3 | –0– |
| Establishment Based Industrial Employment | | | | | | |
| Total All Industries (000's) | 234.5 | 234.7 | 233.8 | 234.3 | + 1.2 | + 5.2 |
| Mining | .7 | .7 | .7 | .7 | –0– | + 16.7 |
| Contract Construction | 12.9 | 12.6 | 12.5 | 12.7 | – 5.7 | – 4.3 |
| Manufacturing | 7.1 | 7.2 | 7.2 | 7.2 | – .9 | + 5.9 |
| Transportation & Utilities | | | | | | |
| Transportation | 8.0 | 8.0 | 8.0 | 8.0 | –0– | + 4.3 |
| Railroads | .6 | .6 | .6 | .6 | –0– | –0– |
| Air | 2.6 | 2.6 | 2.5 | 2.6 | – 3.8 | –0– |
| Public Utilities | 6.1 | 6.1 | 6.1 | 6.1 | + 1.1 | + 7.0 |
| Total Trade | 50.1 | 51.0 | 52.2 | 51.1 | + 2.4 | + 7.1 |
| Wholesale Trade | 6.2 | 6.0 | 6.1 | 6.1 | – 1.6 | – .5 |
| Retail Trade | 43.9 | 45.0 | 46.1 | 45.0 | + 3.0 | + 11.4 |
| Finance, Ins., Real Estate | 10.6 | 10.6 | 10.6 | 10.6 | – .6 | + 2.9 |
| Service Industries | 111.5 | 110.8 | 108.7 | 110.3 | + .3 | + 5.1 |
| Hotels, Gaming & Recreation | 78.4 | 73.7 | 71.6 | 74.6 | + 2.0 | + 6.9 |
| Total Government | 27.5 | 27.7 | 27.8 | 27.7 | + 8.4 | + 2.5 |
| Federal | 5.2 | 5.3 | 5.3 | 5.3 | –0– | + 4.6 |
| State and Local | 22.3 | 22.4 | 22.5 | 22.4 | + 10.5 | + 2.0 |
| Education | 10.5 | 10.5 | 10.5 | 10.5 | + 25.5 | + 1.0 |
| Construction Activity | | | | | | |
| Las Vegas | | | | | | |
| Residential ($000's) | 983 | 3,107 | 2,323 | 6,413 | – 45.4 | – 69.9 |
| Nonresidential ($000's) | 18,546 | 2,103 | 29,646 | 50,295 | + 419.0 | + 216.0 |
| Total Value ($000's) | 19,529 | 5,210 | 31,969 | 56,708 | + 164.5 | + 52.4 |
| # of New Family Units | 231 | 106 | 33 | 370 | – 11.7 | – 27.7 |
| North Las Vegas | | | | | | |
| Residential ($000's) | 432 | 2,543 | 722 | 3,697 | + .7 | + 90.3 |
| Nonresidential ($000's) | 3,421 | 143 | 148 | 3,712 | – 46.0 | – 31.9 |
| Total Value ($000's) | 3,853 | 2,686 | 870 | 7,409 | – 29.7 | – 1.1 |
| # of Permits | 60 | 97 | 52 | 209 | – 4.6 | + 14.8 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | NA | NA | NA | NA | NA | NA |
| # of Customers | NA | NA | NA | NA | NA | NA |
| Taxable Sales ($000's) | – | – | – | 934,197 | + .6 | + 4.2 |
| Gaming Revenues ($000's) | – | – | – | 412,987 | – 2.7 | + 1.4 |
| Telephones in Service | NA | NA | NA | NA | NA | NA |
| Air Transportation-McCarran | | | | | | |
| Passengers (Arr. & Depart.) | 859,599 | 777,575 | 670,461 | 2,307,635 | – 4.4 | – 5.1 |
| Cargo Enplaned (lbs.) | 1,090,331 | 928,857 | 1,274,647 | 3,293,835 | + 6.5 | – 8.4 |
| Cargo Deplaned (lbs.) | 1,786,459 | 1,591,928 | 1,931,753 | 5,310,140 | + 12.7 | – 4.7 |
| Highway Traffic Flow | | | | | | |
| 4 Selected Stations (Avg. Daily) | 28,492 | 28,859 | 26,260 | 27,870 | – 16.7 | + 6.2 |
| Room Tax ($) | | | | | | |
| Clark County | 1,562,250 | 1,218,023 | 965,421 | 3,745,694 | – 3.7 | + 3.3 |
| Las Vegas City | 281,059 | 206,998 | 173,911 | 661,968 | – 4.2 | – 1.8 |
| SMSA Total | 1,851,712 | 1,431,292 | 1,145,105 | 4,428,109 | – 3.7 | + 2.5 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Reno Standard Metropolitan Statistical Area

| | October 1981 | November 1981 | December 1981 | 4th Quarter 1981 | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | | | | | 3rd Quarter-1981 4th Quarter-1981 | 4th Quarter-1980 4th Quarter-1981 |
| Total Labor Force (000's) | 111.6 | 112.3 | 113.5 | 112.5 | + 1.6 | + 3.8 |
| Total Employment (000's) | 105.8 | 105.4 | 106.1 | 105.8 | + .4 | + 2.2 |
| Unemployment (000's) | 5.8 | 6.9 | 7.4 | 6.7 | + 24.1 | + 37.7 |
| Unemployment Rate | 5.2 | 6.1 | 6.5 | 5.9 | + 21.9 | + 31.9 |
| Unemployment Rate (Seasonally Adjusted) | 5.8 | 6.3 | 5.9 | 6.0 | + 6.5 | + 30.4 |
| Agricultural Employment (000's) | .6 | .5 | .4 | .5 | − 34.8 | −0− |
| Establishment Based | | | | | | |
| Industrial Employment | | | | | | |
| Total All Industries (000's) | 119.0 | 118.0 | 117.5 | 118.2 | − .3 | + 1.1 |
| Mining | 1.2 | 1.2 | 1.2 | 1.2 | −0− | + 9.1 |
| Contract Construction | 7.0 | 6.6 | 6.3 | 6.6 | − 7.0 | − 10.8 |
| Manufacturing | 8.3 | 8.2 | 8.1 | 8.2 | − 2.0 | − 2.4 |
| Transportation & Utilities | | | | | | |
| Transportation | 3.8 | 3.8 | 3.9 | 3.8 | − .9 | + .9 |
| Railroads | .5 | .5 | .5 | .5 | −0− | −0− |
| Public Utilities | 4.5 | 4.4 | 4.4 | 4.4 | − 2.2 | − .7 |
| Total Trade | 26.4 | 26.8 | 27.2 | 26.8 | + 1.1 | + 3.9 |
| Wholesale Trade | 5.9 | 5.9 | 5.9 | 5.9 | − 1.1 | + 1.1 |
| Retail Trade | 20.5 | 20.9 | 21.3 | 20.9 | + 1.8 | + 4.7 |
| Finance, Ins., Real Estate | 6.3 | 6.2 | 6.2 | 6.2 | − 1.1 | − 1.1 |
| Service Industries | 44.6 | 44.0 | 43.4 | 44.0 | − 1.8 | + 3.3 |
| Hotels, Gaming & Recreation | 29.5 | 28.9 | 28.3 | 28.9 | − 2.4 | + 5.2 |
| Total Government | 17.0 | 16.8 | 16.8 | 16.9 | + 6.6 | − .4 |
| Federal | 3.1 | 3.0 | 3.0 | 3.0 | + 1.1 | + 1.1 |
| State and Local | 13.9 | 13.8 | 13.8 | 13.8 | + 8.1 | − .7 |
| Education | 6.5 | 6.6 | 6.7 | 6.6 | + 24.5 | − 1.5 |
| Construction Activity | | | | | | |
| Reno | | | | | | |
| Residential ($000's) | 7,746 | 491 | 2,441 | 10,678 | + 17.6 | + 23.8 |
| Nonresidential ($000's) | 2,094 | 2,504 | 4,086 | 8,684 | − 34.1 | − 35.5 |
| Total Value ($000's) | 9,840 | 2,995 | 6,527 | 19,362 | − 13.0 | − 12.3 |
| # of New Family Units | 202 | 2 | 24 | 228 | + 137.5 | − 28.3 |
| Sparks | | | | | | |
| Residential ($000's) | 95 | 892 | 19 | 1,006 | − 77.3 | − 78.6 |
| Nonresidential ($000's) | 576 | 613 | 10,803 | 11,992 | + 421.2 | + 89.8 |
| Total Value ($000's) | 671 | 1,505 | 10,822 | 12,998 | + 92.8 | + 18.0 |
| # of New Family Units | 2 | 6 | 0 | 8 | − 69.2 | − 95.1 |
| Washoe County (Unincorporated) | | | | | | |
| Residential ($000's) | 4,394 | 2,888 | 2,095 | 9,377 | − 51.1 | − 46.6 |
| Nonresidential ($000's) | 986 | 774 | 1,461 | 3,221 | + 52.3 | + 78.7 |
| Total Value ($000's) | 5,380 | 3,662 | 3,556 | 12,598 | − 41.1 | − 34.9 |
| # of New Family Units | 36 | 21 | 17 | 74 | − 57.7 | − 62.8 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 46,552 | 52,212 | 58,031 | 156,795 | NA | + 4.3 |
| Commercial | 91,695 | 88,956 | 86,809 | 267,460 | NA | + 4.9 |
| # of Customers | | | | | | |
| Residential | 79,483 | 79,639 | 79,724 | 79,615 | NA | + 2.2 |
| Commercial | 11,991 | 12,080 | 12,108 | 12,059 | NA | + 2.8 |
| Taxable Sales ($000's) | – | – | – | 432,972 | − 3.7 | − 6.7 |
| Gaming Revenues ($000's) | – | – | – | 116,783 | − 22.5 | + 6.0 |
| Telephones in Service | NA | NA | NA | NA | NA | NA |
| Air Transportation-Reno | | | | | | |
| Passengers (Arr. & Depart.) | 225,972 | 206,939 | 211,302 | 644,213 | + 5.5 | + 12.4 |
| Cargo Enplaned (lbs.) | 493,127 | 437,593 | 593,293 | 1,524,013 | + 20.7 | − 13.1 |
| Cargo Deplaned (lbs.) | 579,436 | 520,195 | 714,651 | 1,814,282 | + 22.4 | − 10.3 |
| Highway Traffic Flow | | | | | | |
| 7 Selected Stations (Avg. Daily) | 62,851 | 52,601 | 52,742 | 56,064 | − 27.2 | − 4.4 |
| Room Tax ($) | | | | | | |
| Washoe County | NA | NA | NA | NA | NA | NA |
| Reno | NA | NA | NA | NA | NA | NA |
| Sparks | NA | NA | NA | NA | NA | NA |
| SMSA Total | NA | NA | NA | NA | NA | NA |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Population for Nevada by Counties and Independent Cities: 1980 and 1981

| | July 1 1981 | April 1 1980 |
|---|---|---|
| Carson City | 33201 | 32022 |
| Churchill County | 14669 | 13917 |
| Fallon | 4623 | 4262 |
| Clark County | 494463 | 463087 |
| Boulder City | 10242 | 9590 |
| Henderson | 26020 | 24363 |
| Las Vegas | 175872 | 164674 |
| N. Las Vegas | 45645 | 42739 |
| Douglas County | 20784 | 19421 |
| Elko County | 18791 | 17269 |
| Carlin | 1336 | 1232 |
| Elko | 9565 | 8758 |
| Wells | 1309 | 1218 |
| Esmeralda County | 799 | 777 |
| Eureka County | 1369 | 1198 |
| Humboldt County | 10782 | 9434 |
| Winnemucca | 4732 | 4140 |
| Lander County | 4983 | 4076 |
| Lincoln County | 3997 | 3732 |
| Caliente | 1052 | 982 |
| Lyon County | 14546 | 13594 |
| Yerington | 2183 | 2021 |
| Mineral County | 6302 | 6217 |
| Nye County | 11103 | 9048 |
| Gabbs | 854 | 811 |
| Pershing County | 3610 | 3408 |
| Lovelock | 1756 | 1680 |
| Storey County | 1590 | 1503 |
| Washoe County | 202474 | 193623 |
| Reno | 104575 | 100756 |
| Sparks | 41995 | 40780 |
| White Pine | 8763 | 8167 |
| Ely | 5238 | 4882 |
| STATE | 852226 | 800493 |

Source: U.S. Bureau of the Census; Bureau of Business and Economic Research, College of Business Administration, University of Nevada, Reno.

## DATA SOURCES

*Information for statistical tables were developed in cooperation with the following sources:*

Bell Telephone Company of Nevada; California Pacific Utilities Co.; Central Telephone Co.; Churchill County Telephone & Telegraph System; Continental Telephone Co.; F. W. Dodge Co.; Elko City Engineer; City of Fallon; Federal Reserve Bank of San Francisco; First American Title Co. of Nevada (Reno); Lake Mead National Recreation Area; Las Vegas Convention Authority; Las Vegas Dept. of Building & Safety; Lincoln County Telephone System; McCarran International Airport; Moapa Valley Telephone Co.; Mt. Wheeler Power Co.; Nevada Dept. of Highways; Nevada Department of Taxation - Cigarette, Liquor, Fuel, and Sales and Use Tax Divisions; Nevada Employment Security Dept.; Nevada Gaming Commission; Nevada Power Co. - Las Vegas and Elko Divisions; Nevada Telephone & Telegraph Co.; North Las Vegas Building Dept.; Reno Building Inspection Dept.; Reno International Airport; Reno-Sparks Convention Authority; Rio Virgin Telephone Co.; Sparks Convention Authority; Rio Virgin Telephone Co.; Sierra Pacific Power Co.; Sparks Building Dept.; U.S. Dept. of Agriculture-Statistical Reporting Service; U.S. Dept. of Commerce-Bureau of Economic Analysis; Dept. of Labor - Bureau of Labor Statistics; White Pine County Regional Planning Commission

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# NEVADA REVIEW of BUSINESS & ECONOMICS

## SUMMER 1982

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# Overcoming Three Major Deficiencies in Contemporary Employee Motivation Theory

*By Philip C. Grant**

*[In this article, the second of a series by Dr. Grant, it is observed that performance is not a simple function of motivation. Indeed, sometimes performance is independent of or inversely related to motivation. The main thrust of the discussion is that management of employee motivation can be improved by recognizing how motivation relates to employee-job performance and how motivation is affected by the costs of employee effort expenditure, by the degree of contingency in a reward function and by off-the-job goal systems.]*

Converting contemporary employee motivation theory to practice has been and continues to be a slow process. One reason: when motivational programs based on contemporary theory are implemented, they often fail. Firms are thus hesitant to get involved. The failure is usually blamed on poor tactics of implementation—not on poor principles. It is this writer's observation, however, that more often than not, proper implementation does occur and failure results from deficiencies in the theoretic foundation.

There are at least three areas of serious deficiency in the current theory. First, the nature of the relationship between performance and motivation has not been properly established. Second, the roles of some critical components of an organization's incentive structure have not been made clear. And third, the impact of *off-the-job* forces on *on-the-job* motivation has been almost entirely neglected. The purpose of this paper is to remedy these deficiencies.

### How Performance Is Related To Motivation

Employee job performance is a function of the quality of the design of the work the employee must perform, of the abilities and personality traits of the employee and of the motivation of the employee. Mathematically:

$$EJP = f(JSD, EA/T, EM)$$

Where: EJP is employee-job performance, JSD is job system design (which includes the variables of work methods, machines, tools, material and informational inputs, etc.)
EA/T is employee abilities and traits, and
EM is employee motivation.

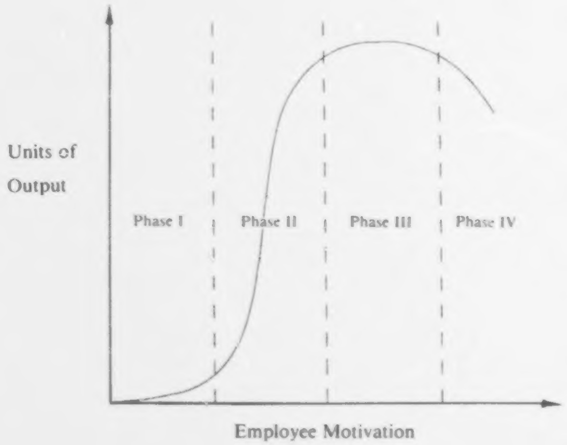
Employee job performance has long been regarded as positively correlated with each of the independent variables on the right side of the equation. That is, performance is expected to increase with improvements or increases in any one or combination of the factors: job design, employee abilities/traits and employee motivation.

But this position is seriously remiss, particularly with respect to how performance relates to motivation. Though managers, as well as students of the subject, often exclaim "the more motivation, the better," such is not always true. As an employee's motivation is increased, performance may increase but performance can also remain unchanged or, indeed, decrease!

To appreciate the impact of changes in the level of employee motivation on employee-job performance consider Figure 1 where the general relationship between performance and motivation is shown. In this figure output per time period (a measure of performance) is plotted against motivation.

FIGURE 1

**Performance vs. Motivation**



In Phase I, motivation (effort expenditure) is low and, therefore, performance is low. Good ability, appropriate personality traits and a quality work design are not enough to generate high output. Effort expenditure is also necessary. Output cannot be high without all the necessary ingredients.

---

*Philip C. Grant is a management consultant and the Head of the Department of Business Administration at Husson College in Bangor, Maine.

Increases in employee motivation in Phase I lead to negligible increases in output because, at this level, effort expenditure is neither sufficient to engage the employee's ability/trait potential nor to realize the advantages of planned work (the formal job design). An analogy may be made to an automatic shift automobile attempting to ascend a hill from a stopped position. Even though the engine is running, the brakes are off, the shifting lever is in the forward position and the vehicle is in good repair, no forward motion (no output) will occur until the gas pedal is depressed far enough (motivation is high enough) for the auto's gear system to be sufficiently engaged.

In Phase II, motivation is high enough for employee abilities and traits to be utilized and for planned work to aid in fostering performance. Here, gains in worker motivation yield significant improvements in worker performance as greater effort expenditure means fuller use of employee abilities and traits and of the job's structural capacities. Pursuing the analogy, at this stage depressing the auto's gas pedal (increasing motivation) will result in acceleration (rising output) of the automobile as all determinants of performance are fully engaged. The more depressed the gas pedal, the greater the ultimate velocity (output) of the automobile.

In Phase III, employee abilities and traits, and the job system design serve to constrain output. Automobiles have a maximum possible velocity. No matter how much gas an auto is given, its velocity cannot exceed design capacity. Likewise boosting motivation at this level yields no gains in production. Only an ability/trait upgrading or a job design improvement will allow for heightened production.

In Phase IV, additional effort expenditure leads to greater employee fatigue, stress and frustration with resultant dysfunctional behavior. Football-like "fumbleitis" sets in. The automobile is receiving too much gas with which to cope. Performance deteriorates and production actually falls. At this stage, higher output is impossible because of the ability, trait and job design constraints mentioned above. Lower performance occurs because employees experience greater fatigue and stress than at reduced levels of effort expenditure. And the frustration they experience, as they sense that increased effort does not generate higher output, leads to lower rationality and greater randomness in thought and action which contribute to further performance decline.

From study of Figure 1, it should be evident that performance is not a simple function of motivation. Contrary to the popular position, employee-job performance is not positively correlated with motivation across all levels of motivation. Performance is largely independent of motivational changes in Phases I and III and is actually inversely related to motivation in Phase IV—an extremely high motivational level. Only in Phase II does performance exhibit a high positive correlation with motivation.

Before a management decision is made to increase the motivation of an employee, the existing phase status of the employee should be ascertained. Designing and implementing incentives to increase motivation for a Phase I, III or IV worker can cost more than it is worth. Managers are frequently guilty of considerable waste of resources as they spend time and money increasing employee motivation when performance is not positively linked to motivation.

## The Roles of Two Critical Components of Incentive Structure

Expectancy theory [3], reinforcement theory [2] and other process theories of motivation have made a marked contribution to present understanding of how to motivate employees. Theoretical development has made substantial progress—progress to the point where it is now widely accepted by academics and practitioners alike that for an employee to be motivated *that employee must perceive that valued rewards are received contingent on effort expenditure*. Expectancy theory promotes this view. Reinforcement theory argues similarly. And other theories, though not giving particular attention to this principle, at the same time do not

FIGURE 2

The Role of Costs

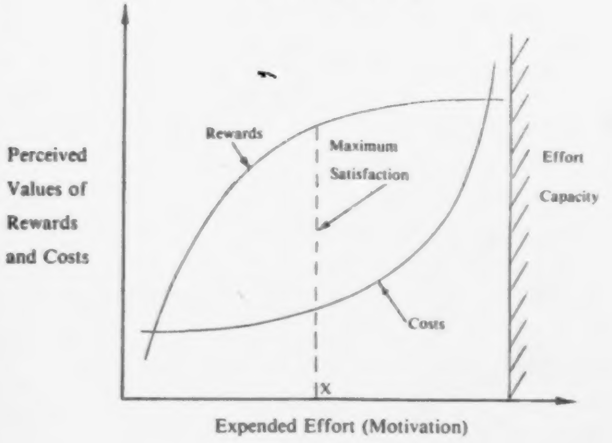
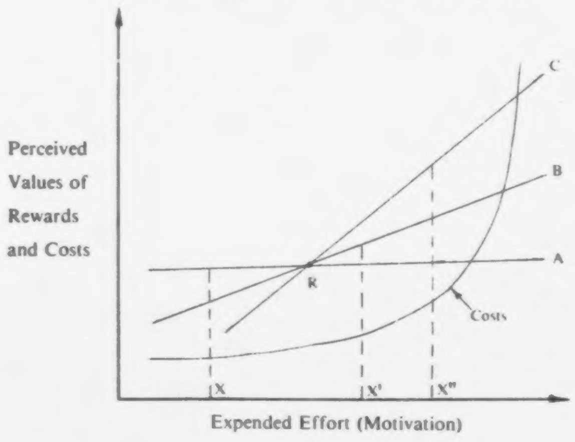


FIGURE 3

The Degree of Reward Contingency



present opposition.

Though valid, the principle as developed in contemporary theory and stated above, does not make explicit two components of incentive structure that are critical in affecting motivation. These components are: (1) the *costs* (stress, fatigue, boredom, etc.) associated with employee effort expenditure and (2) the *degree* of contingency in a job's reward function. Execution of the above principle without first understanding the role of these components will guarantee a manager's failure at motivating the "troops."

The recently developed effort net return (ENR) model of motivation [1] provides a framework for making vivid the role of each of these components in determining the level of employee motivation. First, consider the role of costs. See Figure 2.

This figure illustrates a common situation in which an employee perceives that rewards (both intrinsic and extrinsic) generally rise with increases in expended effort (motivation.) As is typical, the rate of increase of rewards is shown to decline at high levels of effort.

With increases in effort the employee also perceives the costs associated with that effort to rise. Costs will increase rapidly as one moves from moderate to high motivation and approaches the limits of effort expenditure.

The difference between rewards and costs at any given level of effort represents employee satisfaction (net return) at that level. An employee will seek to exert an amount of effort that maximizes satisfaction. In Figure 2 point X marks the effort level that yields this maximization. This level is considerably short of effort capacity (motivation potential) because of the fact that as one moves to the right of point X costs increase faster than rewards. The rising cost function forces the point of maximum satisfaction to the left. Motivation is reduced to a level well below what it would be if only rewards affected motivation.

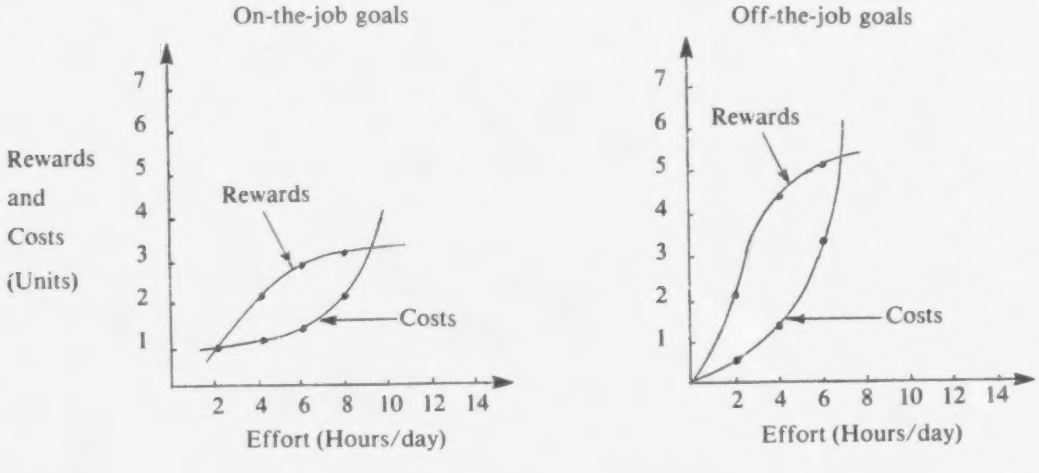
Costs are fully as important as rewards in determining the state of an employee's motivation. High motivation cannot be realized unless management gives attention to cost structure design as well as to reward function design. Management must keep the costs of high effort down. Work must be designed such that high effort can be expended without great stress, fatigue, boredom, etc. If this is not done, the very finest of reward systems may not be sufficient to overcome the undesirable outcomes of high effort. Contemporary theory has recognized rewards but has failed to give equal time to the equally important cost function as a determinant of motivation.

Second, consider the role of the degree of reward function contingency. It is not enough simply to provide rewards contingent on performance. The degree of contingency is of strategic import. See Figure 3.

With reward curve A, maximum satisfaction is achieved

FIGURE 4

**Multiple Goal Systems**



| Distribution Options | Hours on the job | Hours off the job | Total Satisfaction |
|---|---|---|---|
| I | 6 | 2 | 3 Units |
| II | 8 | 0 | 1 Unit |
| III* | 4 | 4 | 4 Units |
| IV | 2 | 6 | 1.75 Units |

*Optimal

at point X—a rather low level of effort. Rotating curve A counterclockwise about point R to position B, shifts the point of maximum satisfaction to point X'. An increase in motivation is realized by increasing the degree of contingency (slope) of the reward curve. Further angular transposition of the reward function to position C forces the point of maximum satisfaction still further to the right—to a higher level of motivation at point X". By experimenting with various slopes for the reward curve one can appreciate how sensitive motivation is to changes in the degree of contingency of the reward function.

The insight gained here is of substantial utility. Rewards need to be more than contingent on effort expenditure to generate high motivation; they need to be *highly* contingent! Management must assure that low effort results in low rewards and that high effort carries high rewards. A moderately sloped reward curve will not elicit high motivation. The current wisdom has failed to explicitly formulate this most essential parameter of an organization's reward system.

## The Impact of Off-The-Job Forces

The classical approach to the study of employee motivation has been to isolate for analysis the on-the-job system. On-the-job motivation has been considered a function of on-the-job forces. But employee motivation is a function not only of the job goal system. *Off-the-job* goal systems play an equally important role. Failure to recognize the impact of these "competing" systems may be the major weakness in contemporary motivation theory.

All employees are members of at-work social groups and various away-from-work groups and organizations. All employees pursue interests, at work and away from work, that are not job related. A portion of an employee's limited effort supply will be allocated to these other systems.

An individual actually strives to maximize aggregate satisfaction—the total of satisfactions received from all goal systems in which there is participation. To achieve total system optimization of satisfaction, with a limited capacity for motivation, one may have to devote an amount of effort to the job that sub-optimizes satisfaction on the job. That is, one may find it desirable to exert less effort on the job than that amount which yields maximum on-the-job satisfaction! So doing will allow for greater satisfactions to be realized in other goal systems. Figure 4 helps explain the phenomenon.

Suppose an individual's effort expenditure is measured by time spent. Suppose, for one reason or another, that one has only eight hours of time available each day. Suppose, further, that the individual participates in just two goal systems—one is on-the-job system, the other an off-the-job system. This person will seek to distribute the limited supply of time between the two goal systems such that overall satisfaction is maximized.

Below Figure 4 are indicated four effort (time) distribution options and the corresponding amounts of satisfaction experienced as determined from the reward-cost differences at each of the four effort levels in each of the two goal systems. Note that for distribution option III—the option that maximizes total satisfaction—the amount of effort spent in the on-the-job goal system is less than the amount of effort that maximizes satisfaction for that goal system. This phenomenon is commonplace. Since effort must be distributed among competing goal systems, employees often lack high—or even moderate—job motivation. The employee's motivation to perform very much depends on off-the-job pursuits.

To motivate employees management must examine the incentive structure of off-the-job goal systems as well as the job incentive structure. To cause workers to exert less effort in other systems and more on the job, management must make sure that employees receive high job satisfaction *only* at high effort levels.

The analysis here also suggests that management might control employee motivation by using applicant screening techniques that distinguish candidates on the basis of intensity of extra curricula interests. Those who are likely to derive the majority of their satisfactions from the job incentive structure are likely to expend most of their efforts in the on-the-job goal system. Those who have strong outside interests must reduce job oriented effort to achieve satisfaction of those other interests. It, therefore, often makes sense to hire those individuals whose primary source of satisfaction is the job.

## Conclusion

Certainly, employee motivation is a key variable influencing industrial productivity. But control of employee motivation and thus, to a great degree, control of productivity, has escaped management because of severe "holes" in the theory.

The foregoing discussion should enable the reader to more fully grasp how motivation affects performance and what factors are pivitol in determinig the state of employee motivation.

From the presentation here it should be apparent why many programs which attempt to increase employee performance through introducing valued contingent rewards have failed. It is not because valued contingent rewards don't motivate. They do. Expectancy and reinforcement theory must be credited. But there is more to the matter. Sometimes performance is independent of or inversely related to motivation. Often, when rewards lack a sufficient degree of contingency, employees perceive the costs of additional effort to exceed the rewards. And very often job satisfactions are too low to offset the lure of personal off-the-job interest systems competing for the employee's energies.

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# Profiling Nevada's High Income Producers in Real Estate

*By Harold S. Sekiguchi and Edward A. Zane**

*[Editor's Note: This is the third of a series of articles highlighting results of surveys relating to the Nevada real estate industry. The three surveys were conducted by the Bureau of Business and Economic Research, College of Business Administration, University of Nevada, Reno, for the Nevada Real Estate Advisory Commission.*

*The two related articles previously published in this journal are: Sekiguchi and Zane, "The Current Structure of the Nevada Real Estate Industry," Spring-Summer, 1981, pp. 30-34, and Barone and Wright, "Consumer Perceptions of the Nevada Real Estate Industry," in the same issue, pp. 35-38.]*

### Introduction

Success in Nevada's real estate business during periods of economic boom comes relatively easy. There are real estate practitioners, however, who seem to be able to sustain high income productivity even during periods of stagflation and recession. They operate on the high side of the income spectrum during good or bad times. Who are these high income achievers? How do they differ from their peers?

In our real estate survey, a questionnaire was sent to a probability sample (systematic sampling procedure) of brokers, broker-salespersons, and salespersons in Nevada. The questionnaire sought answers to specific issues concerning real estate practices, educational requirements and relevant demographics of the licensees. A total of 3,022 questionnaires was mailed. We received 772 returns of which 747 were considered to provide useable data. An in-depth personal interview of a subsample of licensees was conducted to gain additional insights into the licensees' mode of operation.[1] The specific purpose of our report is to provide guidelines for the novice real estate practitioner, assuming motivation to equal or exceed the financial performance of the most successful real estate professional.

## MAJOR FINDINGS

### The Impact of Location

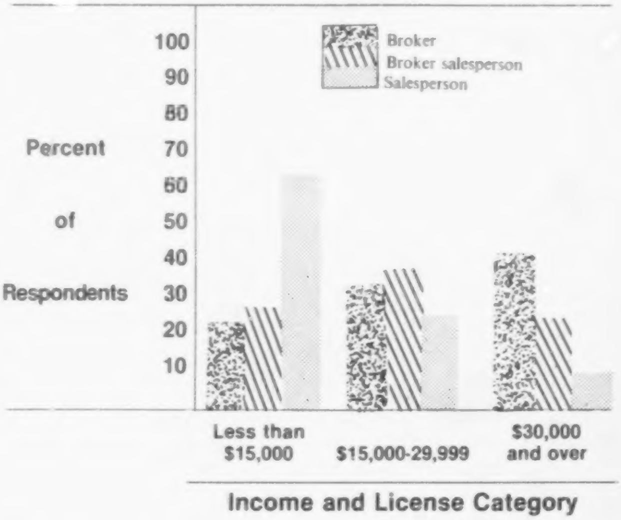
The economic environment in which the real estate professional decides to locate, other things being equal, appears to be a contributing factor in the determination of his level of success. His earning power is correlated significantly with the size of the location's economic base, i.e., the larger the community, the greater the opportunity to succeed. The data presented in Table 1 support this observation.

In all income categories, the real estate business of an overwhelming number of the survey respondents is located in the Las Vegas or Reno metropolitan areas. The pattern of income distribution also reflects the size and rate of economic development. For example, the very rapid growth of the Reno metropolitan area did not begin until after 1974 and thus it is not surprising to find the somewhat higher incomes being earned in Las Vegas.

Obviously, economic growth rates are beyond the ability of the individual real estate practitioner to influence. Once one has selected a location, it is difficult to relocate in response to differential growth rates among communities. Therefore, the initial decision on community location becomes a significant factor in the ability of the novice real estate practitioner to achieve higher levels of income (as well as his survivability in the competitive real estate business).

FIGURE 1

**Percent of Respondents by Income Earned by License Category, 1979**



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*Harold S. Sekiguchi is Professor of Managerial Sciences and Edward A. Zane is Professor of Accounting and Information Systems, College of Business Administration, University of Nevada, Reno.

TABLE 1

### Percent of Respondents by Income Earned, Type of License, and Location of Business 1979

| LOCATION | INCOME AND LICENSEE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ◄$15,000 | | | $15,000-29,999 | | | ►$30,000 | | |
| | B | B/S | S | B | B/S | S | B | B/S | S |
| Las Vegas & vicinity | 35% | 42% | 55% | 35% | 47% | 64% | 48% | 65% | 62% |
| Reno-Sparks | 47 | 32 | 24 | 30 | 29 | 22 | 29 | 15 | 8 |
| Carson City & vicinity | 8 | 11 | 8 | 9 | 7 | 0 | 3 | 3 | 0 |
| North Lake Tahoe | 0 | 2 | 2 | 7 | 7 | 6 | 7 | 10 | 15 |
| South Lake Tahoe | 2 | 3 | 1 | 3 | 3 | 0 | 3 | 0 | 8 |
| Elko | 0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 |
| Ely | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Other | 8 | 7 | 7 | 12 | 7 | 8 | 9 | 7 | 8 |
| | 100%<br>(n = 74) | 100%<br>(n = 71) | 100%<br>(n = 88) | 100%<br>(n = 105) | 100%<br>(n = 70) | 100%<br>(n = 36) | 100%<br>(n = 127) | 100%<br>(n = 40) | 100%<br>(n = 13) |

B: broker B/S: broker-salesperson S: salesperson

TABLE 2

### Percent of Respondents by Time Devoted to Real Estate Specialties, and by Income Earned, 1978 and 1979

| Real Estate Specialties (Percent of Time) | INCOME | | |
|---|---|---|---|
| | ◄$15,000 | $15,000-29,999 | ►$30,000 |
| **Residential** | | | |
| 0-25% | 16% | 24% | 25% |
| 26-50 | 22 | 22 | 18 |
| 51-75 | 6 | 15 | 18 |
| 76-100 | 56 | 40 | 39 |
| TOTAL | 100%<br>(n = 206) | 100%<br>(n = 189) | 100%<br>(n = 142) |
| **Commercial** | | | |
| 0-25% | 71% | 70% | 68% |
| 26-50 | 19 | 22 | 18 |
| 51-75 | 3 | 3 | 4 |
| 76-100 | 7 | 6 | 10 |
| TOTAL | 100%<br>(n = 122) | 100%<br>(n = 122) | 100%<br>(n = 113) |
| **Farms & Ranches** | | | |
| 0-25% | 88% | 75% | 81% |
| 26-50 | 10 | 9 | 15 |
| 51-75 | 0 | 9 | 0 |
| 76-100 | 2 | 6 | 4 |
| TOTAL | 100%<br>(n = 41) | 100%<br>(n = 32) | 100%<br>(n = 26) |
| **Recreation** | | | |
| 0-25% | 100% | 87% | 74% |
| 26-50 | 0 | 13 | 11 |
| 51-75 | 0 | 0 | 11 |
| 76-100 | 0 | 0 | 5 |
| TOTAL | 100%<br>(n = 17) | 100%<br>(n = 23) | 100%<br>(n = 19) |

| Real Estate Specialties (Percent of Time) | INCOME | | |
|---|---|---|---|
| | ◄$15,000 | $15,000-29,999 | ►$30,000 |
| **Property Management** | | | |
| 0-25% | 72% | 81% | 82% |
| 26-50 | 21 | 9 | 8 |
| 51-75 | 4 | 2 | 2 |
| 76-100 | 4 | 8 | 8 |
| TOTAL | 100%<br>(n = 53) | 100%<br>(n = 64) | 100%<br>(n = 51) |
| **Real Estate Investment** | | | |
| 0-25% | 69% | 60% | 63% |
| 26-50 | 18 | 28 | 26 |
| 51-75 | 4 | 6 | 4 |
| 76-100 | 9 | 6 | 7 |
| TOTAL | 100%<br>(n = 94) | 100%<br>(n = 101) | 100%<br>(n = 103) |
| **Other** | | | |
| 0-25% | 51% | 36% | 31% |
| 26-50 | 23 | 34 | 27 |
| 51-75 | 12 | 12 | 15 |
| 76-100 | 14 | 18 | 27 |
| TOTAL | 100%<br>(n = 43) | 100%<br>(n = 44) | 100%<br>(n = 45) |

*n indicates number of respondents. Many of the practitioners indicated more than one specialty.*

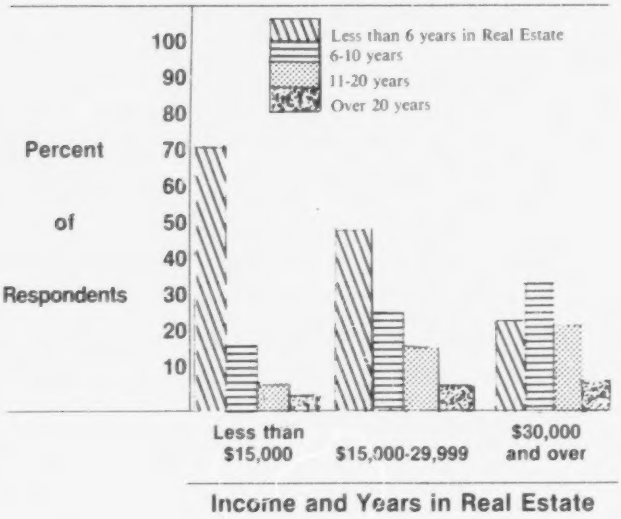
**License Category and Years of Experience**

We anticipated a close relationship existing between the license classification of the respondent and the income earned. In Figure 1, it is apparent that almost 65 percent of those respondents reporting earnings of less than $15,000 are holders of the salespersons' license. Conversely, more than 40 percent of those reporting earnings over $30,000 are holders of the brokers' license. In the middle income group (more than $15,000 but less than $30,000), the variation in income earned by category (broker, broker salesperson, and salesperson) is not markedly different.

In Figure 2 it is indicated that on the average, income earned by our respondents rises with years of experience in the real estate profession; i.e., much of the variation in income can be traced to differences in years of experience. Thus, as the figure shows, 72 percent of the respondents reporting income of less than $15,000 in 1979 had fewer than six years of experience in the real estate profession. The comparable figure for 1978 is 70 percent. It is notable that a substantial number of respondents in all categories earn less than $30,000 in spite of the fact that they report upwards to twenty or more years of experience. Our data are not structured to permit us to determine specifically why this situation exists. The most likely explanation is that these individuals have other sources of income, that they devote only a portion of their time to the real estate business, and/or are semi-retired.

FIGURE 2

**Percent of Respondents by**
**Income Earned and Years in Real Estate, 1979**

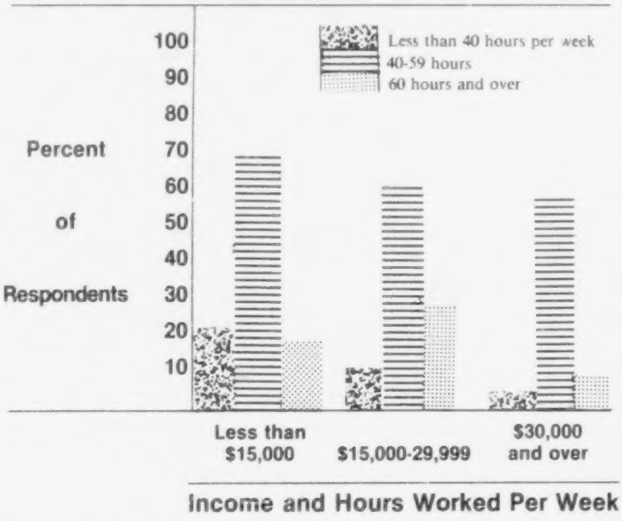


**Hours Worked Per Week**

To a large extent, real estate practitioners are not subject to control over the hours worked. However, we have identified a close relationship between the hours of effort that individuals put into their practice and the income level attained. It appears that the normal pattern of hours worked per week is 40-59 hours for all income categories. (See Figure 3). Clearly, the successful practitioner earning in excess of $30,000 per year is likely to be working 60 hours per week or more on the job. Income, of course, is generated only when a sale is made, but it is axiomatic in the real estate industry that a necessary prerequisite to economic success is an active and productive listing of properties. This list can be developed only through the investment of considerable effort on the part of the practitioner, particularly in contacting prospects. It is through this time-consuming (but rewarding client prospecting activity) that the individual practitioner can exert some measure of control over the level of success achieved.

FIGURE 3

**Percent of Respondents by**
**Income Earned and Hours Worked Per Week, 1979**



**Real Estate Specialty**

Table 2 shows how the survey respondents' income varies by the type of specialization and the extent to which this specialization takes place. In all income categories, the predominant specialization is in the sale of residential property. Within this specialization the majority of the respondents concentrate from 76% to 100% of their time, as indicated in Table 2. Many of the respondents have more than one specialty, e.g., commercial, farms and ranches, recreational, etc. as detailed in the table. But most of the respondents reporting income from these various specialties indicated devoting 25 percent (or less) of their time to them. During the years of our survey (1978 and 1979), the population of Nevada was increasing very rapidly. Concentration of growth in the Las Vegas and Reno metropolitan areas may have been a factor in the success of those specializing in residential real estate transactions.

**Operating Expenses**

There is an old adage in business that purports to show that to make money one must spend money. In our survey we asked respondents to provide us with estimates of their monthly expenditures on a selected list of expense categories. With the exception of two categories, automobile and office expenses, there seems to be little difference among the income categories and the expenses incurred per month. In other words, there is no indication that one will be more successful, for example, if one incurs a higher customer entertainment expense. There is nothing inherent in our data to suggest why there should be a greater correlation between high income and automobile expense. One might speculate that the higher income is both the cause and the effect of the expenditure on automobile expenses. To obtain the higher income the licensee must necessarily show more units to more prospects and thus incur the costs related to the showings. The higher income likely encourages the licensee to acquire and operate a somewhat more expensive vehicle.

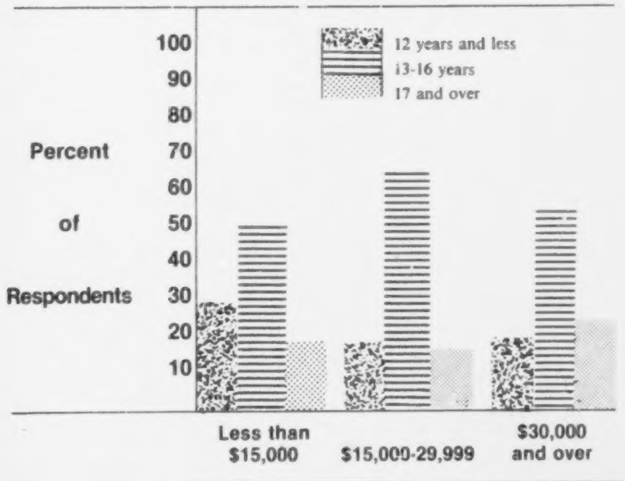
In the case of the office expense, brokers typicaly fall in the category which indicates expenditures in excess of $600 per month. This is to be expected because the brokers commonly provide office services for those salespersons and broker-salespersons affiliated with the broker's firms.

**Educational Preparation**

It seems axiomatic that there should be a close relationship between education in preparation for a specific profession and success in the profession. Our survey supports this maxim. A remarkable number of respondents in all income categories report some formal education beyond high school. This percentage varies from 52 percent for those reporting earnings of less than $15,000, to 62 percent for those reporting $15,000 to $29,000, to 55 percent earning more than $30,000. (See Figure 4).

FIGURE 4

**Percent of Respondents by Income Earned and Years of Education Completed, 1979**



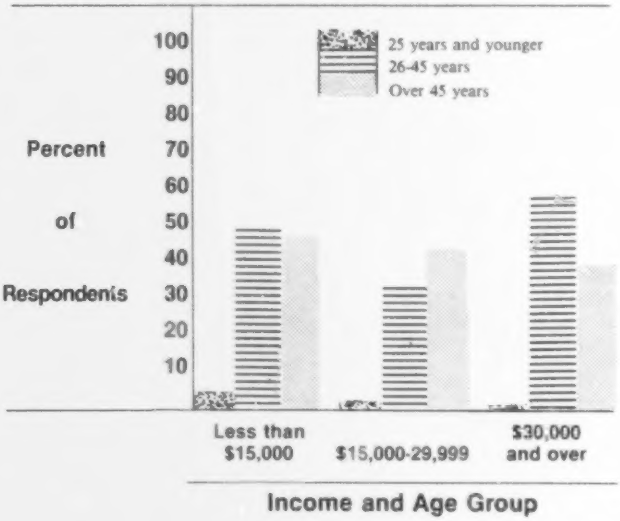
Although college level preparation is a necessary prerequisite to sit for the broker's examination, no such requirement applies to the salesperson's examination. Why, then, is there such a high percentage of individuals represented in our survey who have taken some work at the college level? Our data do not permit a definitive response to this question. However, we believe that two factors are at work here. First, our data show that there is a direct relationship between success in real estate and the effort one puts into the process. For this reason, we feel that the real estate industry offers an attractive career for college trained and self-motivated individuals. Secondly, the normal progression in the industry is for the practitioner to qualify eventually as a broker. Thus, we feel that many of those currently holding a salesperson's license will seek to obtain their broker's license. The college level course requirements will already have been satisfied in many of these cases.

**Age of Respondents**

One fact most evident in the survey data is the general youth of real estate practitioners in Nevada. Although the number of respondents in the 26 to 45 year age group declined somewhat between 1978 and 1979, in absolute numbers this group still outnumbered significantly the over-45 age group. (See Figure 5). In the $30,000 and over per year income category, almost 60 percent of the respondents were in the age group of 26 to 45 years.

FIGURE 5

**Percent of Respondents by Income Earned and by Age Group, 1979**



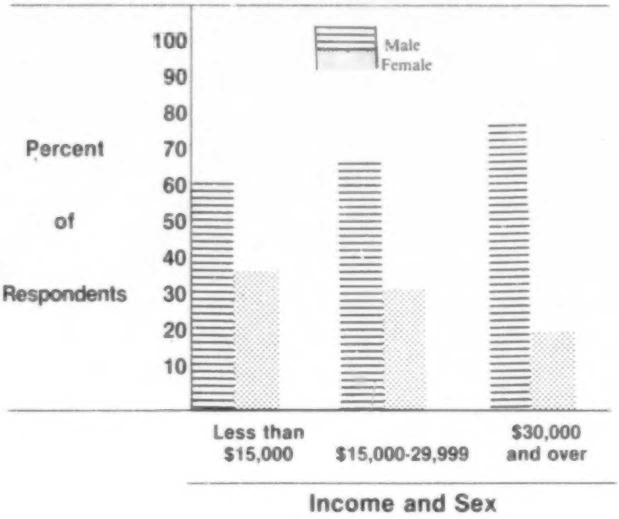
Our survey also shows that the over 45 years age group constitutes a fairly large proportion in each income category. For example, it is not possible to determine why 50 percent of our respondents reporting annual earnings of less than $15,000 should be in the over 45 years group. We have assumed that this large number represents individuals who are starting a second career in the real estate industry.

**Income Groups by Sex**

Although the real estate industry has been open to women, the pattern of income distribution by sex among our respondents is similar to that which would be observed in other industries in the United States. In each of the years for which we gathered data (1978 and 1979), the male licensee predominated in all income categories. (See Figure 6). There was a slight increase in the percentage of female licensees during 1979 among those reporting income over $15,000. The question on sex in our survey merely was to gather demographic data and thus did not attempt to determine explanations for variations in the distribution of our sample by sex. It would be of considerable interest to the industry and to the Nevada Real Estate Commission to have access to a follow-up study to determine the nature and causes for the patterns of license and income distribution by sex.

FIGURE 6

**Percent of Respondents by Income Earned and by Sex, 1979**



## SUMMARY AND CONCLUSIONS

The results of this study underscore one of the generally recognized maxims of success—the significance of working effectively and efficiently, not simply working hard. The findings in our research, based on an extensive survey of real estate practitioners in Nevada, have identified the major characteristics associated with "high income producers." The insights gained from this study should aid real estate novices in improving their margins for success.

The following conclusions highlight the characteristics which appear to have a high correlation with success in the real estate business:

- High income producers congregate in the metropolitan areas of Las Vegas and Reno. However, anywhere from approximately two to seven times more licensees earning in excess of $30,000 are in the Las Vegas metropolitan area.
- Experience and high income had positive correlation. Licensees with six to ten years of real estate experience constituted the largest group earning $30,000 or more annually.
- High income producers work longer hours, 50 to over 60 hours per week. A few established licensees (5%), however, work less than 40 hours per week and still earn more than $30,000 annually.
- High income achievers generate the major proportion of their revenues from residential transactions.
- Two expense items, automobile and office, account for a substantial percent of the high income earners' expense allocations.
- A clear parallel is observed between educational background (beyond high school) and high income producers.
- The middle to older age groups constitute the high income achievers.
- An overwhelming number of high income producers are male licensees while 50 to 67 percent of the lower income producers are women, probably reflecting their recent entry into the real estate business.
- A progressive increase in the number of brokers is observed in each income category (low, middle and high). Approximately 42 percent of all brokers, the largest group, earn $30,000 or more annually.

# Marketing Strategies for UNR: A Long-Term Development Plan

*By Kyung-Il Ghymn**

American colleges and universities are caught in the bind of rising costs and declining revenue. Since 1965, more than 170 privately endowed institutions of higher learning have been forced to close their doors due to large revenue shortfalls and the related insufficient number of students [1]. State university administrators are distressed by the size of the cuts in higher education budgets ordered by state legislatures.

This article, as part of the university image study, discusses and suggests the marketing concept and strategies as a long-term management approach for the university. Also included are basic, but often neglected, issues associated with market-oriented planning facing a university and some viable ways of delivering marketing services for UNR.

Institutions of higher learning participate in marketing activities, although subtle and seldom thought of as marketing:

1. Product development (course and program development).
2. Pricing (tuition rates).
3. Promotion (printing university catalogs).
4. Distribution (announcing times and places).

### Marketing and the University

University and college administrators are active in financial management, formal planning, personnel management, and in developing management information systems. But generally effective marketing receives little consideration. In the 1960s when universities enjoyed a sellers' market, admission officials merely reviewed applicants' records and tried to predict which ones had the potential of becoming good students. Now universities face a buyers' market. The problems are that (1) the number of high school graduates may decline from a peak of 3.2 million in 1977 to 2.8 million annually in 1982 and 1983; (2) the percentage of high school graduates electing to go to college may decline, (3) an increasing proportion of students may terminate their formal education after two years at a community college; (4) the cost of attending college may effectively limit enrollment [2].

UNR has been experiencing a small overall annual increase in enrollments in recent years reflecting growth in Nevada's population. But the duration of this trend is uncertain.

Many college administrators regard marketing programs as "unprofessional" and/or "unethical." Some of the marketing tactics which have been used were offensive and produced strong negative reactions among the universities' constituencies, especially the faculty. Apparently, some colleges that applied the marketing concept interpreted it to mean intensified aggressive advertising. Thus casual observers witnessed numerous aggressive university promotions implemented without any substantial changes or improvements in "product mix", competitive product positioning, quality changes (faculty and programs), or student services. For example [3]:

> Release of balloons filled with scholarship offers when in fact the scholarships were limited (North Kentucky State University).
>
> Promotional frisbees to high school students for vacationing on the beaches of Fort Lauderdale.
>
> A same-day admission policy for students who walk in, apply and qualify (Bard College).
>
> Shortening the degree period based on previous work experience (Worcester Polytechnic Institute).
>
> An expensive billboard advertising near Chicago's O'Hare Airport (Drake University).
>
> Colorful advertising in *Seventeen* magazine (St. Joseph's College).

We haven't seen offers such as "satisfaction guaranteed or your money back", but this may come. Aggressive promotions such as these may lead to a strong presumption that the value and quality of a higher education have declined. The public resents deceptive and/or inept advertising.

### Marketing Approaches to Strategic Planning for UNR

What steps may be taken to strengthen the university's position in the marketplace without creating negative reactions? A genuine marketing response should be undertaken. This and the following section deal with major issues

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involved in market-oriented planning facing UNR. Recommendations for the successful implementation of the plans are presented.

In market-oriented institutional planning, marketing must be recognized as much more than mere "sales increase" promotion. Promotional tactics cannot be determined until more fundamental issues are resolved.

A brief discussion of marketing definitions seems to be in order for better understanding of the marketing concept and its application to university planning. Marketing is defined as the total process of analyzing, organizing, planning and controlling firms' (universities') environmental forces and their internal resources, policies, and activities with a view to satisfying the needs and wants of chosen customer groups (students and the community) at a profit (private sector).

This definition suggests three main elements of the modern marketing concept which are directly related to strategic issues facing the university's market-oriented planning. They are: market analysis, resource analysis, and mission analysis. A specific and detailed program is given below:

1) Determination of social, economic, political and technological changes that are affecting higher education (external environmental analysis).
2) Determination of the primary target market to serve (market definition).
3) Selection of the major market segments (market segmentation).
4) Identification of the needs of each market segment (need assessment).
5) Measurement of awareness, knowledge, interest and desire in each market segment concerning UNR (market attitude).
6) Assessment of key publics' (state legislators, administrators, community leaders, business/industry leaders, alumni, etc.) perception of UNR (image analysis).
7) Identification and understanding of potential students' decision-making process for selecting a university to attend (consumer behavior analysis).
8) Measurement of current students' satisfaction level (customers' post-purchase feelings assessment).

Resource Analysis

1) Analysis of UNR's major strengths and weaknesses in faculty, programs, facilities, etc.
2) Exploration and maintenance of opportunities to expand financial resources.

Mission Analysis

1) Determination of the basic university objectives (teaching-oriented, research-oriented, vocational, all or any combination thereof, for national fame, regional excellence, or local response).
2) Identification of target customers (high school students, general adults, professionals, etc.).
3) Which target segments should be the university focus?
4) Identification of major competitors (regional colleges and universities, community colleges, vocational schools).
5) Identification of competitive benefits and their integration into a "product mix" package to offer to the target market (market positioning).

The university must do its homework on the above goals to be in a better position to make decisions that would improve student recruitment and university fund raising. Awareness of changes in external/internal factors, and understanding of marketing concepts can certainly enrich the university administrators' knowledge and broaden their views. But understanding alone is not enough. For an effective marketing approach, the university needs an organized unit within the system; i.e., a director of marketing and planning as opposed to establishing an ad hoc marketing committee or hiring an outside marketing consulting firm.

## A Director of Marketing and Strategic Planning

Implementing the marketing concept is too complex and sophisticated for reliance on a loosely structured *ad hoc* committee. The following is a complete job description for a university marketing and planning director:

**Job Description** [5]

Title: Director of Marketing and Strategic Planning

Reports to a vicepresident designated by the president

Scope: university-wide

Position Concept: Responsible for providing marketing guidance and services to university officers, school deans, department chairpersons and other administrative personnel of the university.

Functions: The Director of Marketing and Strategic Planning shall:

compose a marketing perspective to be considered by the university administration in planning the university's future.

prepare data that might be needed by an officer of the university on a particular market's size, segments, trends, and behavioral dynamics.

conduct studies of the needs, perceptions, preferences, and satisfactions of particular markets.

assist in the planning, promotion, and launching of new programs.

assist in the development of communication and promotion campaigns and materials.

analyze and advise on pricing questions.

appraise the workability of new academic proposals from a marketing point of view.

advise on new student recruitment.

advise on current student satisfaction.

advise on university fund raising.

Responsibilities: The Director of Marketing & Strategic Planning shall:

contact individual officers and small groups at the university to explain services.

prioritize the various requests for services according to their long-run impact, cost saving potential, time requirements, ease of accomplishment, cost, and urgency.

select projects of high priority and set accomplishment goals for the year.

prepare a budget request to support anticipated work.

prepare an annual report on the main accomplishments of the office.

It is also possible that some public relations directors in the university may feel uncomfortable about a new position in marketing for fear that it might weaken their positions. Some may argue that marketing is not necessary because nonspecialists can do the job. But this writer's observation of several universities indicates that most public relations activities seem to focus on journalistic, communicational and promotional efforts. Marketing substance is totally lacking.

In view of possible opposition and budgetary problems, a possible way of implementing the marketing concept with minimum opposition would be a joint appointment until such time the institution becomes convinced of the need to appoint a full-time director. The candidate for the position must have a strong marketing background and analytical skills.

## Conclusion

Historically there has been strong bias against *marketing*. Marketers have been viewed in some quarters as hucksters and somewhat unethical. Even today, marketing is sometimes regarded as mere "hard selling" in which "parasites" participate.

Administrators in the "not-for profit" sector of the U.S. economy have either resisted the marketing concept or have been unaware of its true meaning. The university is a social institution operating according to marketing variables and problems of the marketplace which a Director of Marketing and Strategic Planning may be expected to solve.

### *References*

1. Donald L. Pyke (1977), "The Future of Higher Education: Will Private Institutions Disappear in the U.S.?" *The Futurist*, p. 374.
2. College Entrance Board (1976) "A Role for Marketing in College Admissions", p. 54.
3. Philip Kotler (1979) "Strategies for Introducing Marketing into Nonprofit Organizations", *Journal of Marketing*, 43 (January), 38, 39.
4. See Kyung-il Ghymn, (1979) "External Environmental Information Systems for University Long-Range Planning", *Working Paper Series, No. 79-7*, Bureau of Business and Economic Research, College of Business Administration, University of Nevada-Reno.
5. Adapted from Kotler, *Ibid*, 42.

# Nevada Economic Indicators

## Statewide Statistical Data

| | | | | | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | January 1982 | February 1982 | March 1982 | 1st Quarter 1982 | 4th Quarter-1981 4th Quarter-1982 | 1st Quarter-1981 4th Quarter-1982 |
| Total Labor Force (000's) | 474.6† | 479.0† | 483.3 | 479.0 | + 12.2 | + 7.2 |
| Total Employment (000's) | 435.0† | 438.9† | 443.2 | 439.0 | + 11.1 | + 6.8 |
| Unemployment (000's) | 39.6† | 40.1† | 40.1 | 39.9 | + 25.8 | + 12.8 |
| Unemployment Rate | 8.3† | 8.4† | 8.3 | 8.3 | + 12.1 | + 5.0 |
| Unemployment Rate (Seasonally Adjusted) | 7.5† | 7.9† | 8.3 | 7.9 | + 5.8 | + 6.8 |
| Agricultural Empl. (000's) | 3.4† | 3.4† | 4.2 | 3.7 | – 16.0 | .9 |
| Establishment Based Industrial Employment | | | | | | |
| Total All Industries (000's) | 410.2† | 412.3† | 413.8 | 412.1 | – 2.3 | + 2.8 |
| Mining | 7.7† | 7.6† | 7.6 | 7.6 | – 4.2 | + .9 |
| Contract Construction | 22.9† | 22.4† | 23.0 | 22.8 | – 6.7 | – 10.1 |
| Manufacturing | 20.6† | 20.5† | 20.4 | 20.5 | + 1.7 | + 5.7 |
| Transportation & Utilities | | | | | | |
| Transportation | 13.3† | 13.3† | 13.3 | 13.3 | – 1.2 | + 4.7 |
| Railroads | 1.8† | 1.8† | 1.8 | 1.8 | + 8.0 | + 8.0 |
| Air | 3.1† | 3.1† | 3.0 | 3.1 | + 0.0 | + 2.2 |
| Public Utilities | 12.0† | 12.1† | 12.1 | 12.1 | – .3 | + 3.4 |
| Total Trade | 85.9† | 85.0† | 85.1 | 85.3 | – 2.7 | + 5.0 |
| Wholesale Trade | 14.0† | 14.0† | 14.0 | 14.0 | + 4.2 | + 1.9 |
| Retail Trade | 71.9† | 71.0† | 71.1 | 71.3 | – 3.9 | + 5.7 |
| Finance, Ins., Real Estate | 18.2† | 18.4† | 18.4 | 18.3 | – .5 | + 2.2 |
| Service Industries | 173.1† | 174.6† | 175.4 | 174.4 | – 2.5 | + 4.0 |
| Hotels, Amusement and Recreation Combined | 111.6† | 112.7† | 113.1 | 122.5 | – 5.7 | + 1.8 |
| Medical and Health | 14.9† | 15.0† | 15.1 | 15.0 | + 3.4 | + 8.7 |
| Total Government | 56.5† | 58.4† | 58.5 | 57.8 | – 1.6 | + .8 |
| Federal | 9.2† | 9.2† | 9.2 | 9.2 | – 7.7 | – .4 |
| State and Local | 47.3† | 49.2† | 49.3 | 48.6 | – .3 | + 1.0 |
| Education | 19.3† | 21.2† | 21.3 | 20.6 | – 1.4 | + 1.3 |
| Average Weekly Earnings in Selected Industries | | | | | | |
| Mining | 464.02† | 457.47† | 481.17 | 467.55 | + 1.9 | + 13.0 |
| Construction | 543.84† | 521.15† | 565.67 | 543.55 | – 3.9 | – 2.0 |
| Manufacturing | 326.80† | 322.27† | 325.23 | 324.77 | – 4.4 | + 6.0 |
| Public Utilities | 405.27† | 411.45† | 403.37 | 406.70 | – .9 | + 11.6 |
| Trade | 251.33† | 252.50† | 250.75 | 251.53 | + 1.8 | + 9.6 |
| Average Weekly Hours in Selected Industries | | | | | | |
| Mining | 41.1† | 40.7† | 43.0 | 41.6 | – .9 | + 2.0 |
| Construction | 32.9† | 31.7† | 34.2 | 32.9 | – 4.2 | – 8.3 |
| Manufacturing | 38.0† | 37.3† | 37.0 | 37.4 | – 2.1 | – 2.7 |
| Public Utilities | 39.5† | 39.0† | 38.6 | 39.0 | – 2.9 | – 1.8 |
| Trade | 33.6† | 33.4† | 33.3 | 33.4 | – .6 | – .1 |
| Average Hourly Earnings in Selected Industries | | | | | | |
| Mining | 11.29† | 11.24† | 11.19 | 11.24 | + 2.8 | + 9.9 |
| Construction | 16.53† | 16.44† | 16.54 | 16.50 | + .2 | + 6.8 |
| Manufacturing | 8.60† | 8.64† | 8.79 | 8.68 | – 2.4 | + 8.9 |
| Public Utilities | 10.26† | 10.55† | 10.45 | 10.42 | + 2.1 | + 13.6 |
| Trade | 7.48† | 7.56† | 7.53 | 7.52 | + 2.5 | + 9.7 |
| Construction Activity | | | | | | |
| Residential ($000's) | 33,800 | 41,600 | 61,500 | 136,900 | – 17.0 | – 22.3 |
| Nonresidential ($000's) | 19,600 | 47,400 | 34,500 | 101,500 | – 11.7 | – 13.0 |
| Nonbuilding ($000's) | 12,700 | 8,500 | 27,200 | 48,400 | – 16.1 | + 145.7 |
| Total ($000's) | 66,100 | 97,500 | 123,200 | 286,800 | – 15.1 | – 8.2 |
| # of New Dwelling Units | 503 | 719 | 1,357 | 2,579 | – .9 | + 24.1 |
| Banking Activities ($000,000's) | | | | | | |
| Loans | 2,100 | 2,057 | 2,112 | 2,089 | + 1.0 | + 9.5 |
| Investments | 668 | 670 | 671 | 669 | + 1.3 | + .2 |
| Total Deposits | 2,806 | 2,827 | 2,958 | 2,863 | + 1.2 | + 10.4 |
| Demand Deposits | 921 | 896 | 964 | 927 | – 5.7 | – 4.3 |
| Time & Savings Deposits | 1,878 | 1,926 | 1,989 | 1,931 | + 4.8 | + 19.2 |

## Statewide Statistical Data (Continued)

| | January 1982 | February 1982 | March 1982 | 1st Quarter 1982 | PERCENT CHANGE 4th Quarter-1981 4th Quarter-1982 | 1st Quarter-1981 4th Quarter-1982 |
|---|---|---|---|---|---|---|
| Tax Collections ($) | | | | | | |
| Liquor | 723,280 | 796,952 | 1,004,086 | 2,524,318 | – 20.6 | + 1.6 |
| Cigarette | 1,077,794 | 1,120,495 | 1,054,451 | 3,252,740 | – 14.4 | + .8 |
| Fuel | 3,166,133 | 2,900,280 | 2,877,839 | 8,944,252 | + 1.1 | + 73.3 |
| Taxable Sales ($000's) | – | – | – | 1,540,747 | – 8.9 | – 1.4 |
| Gaming Revenues ($000's) | – | – | – | 639,053 | + 6.6 | + 8.1 |
| Highway Traffic Flow | | | | | | |
| 17 Selected Stations (Avg. Daily) | 76,741 | 87,999 | 88,912 | 84,550 | – 12.0 | – 2.5 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Las Vegas Standard Metropolitan Statistical Area

| | January 1982 | February 1982 | March 1982 | 1st Quarter 1982 | PERCENT CHANGE 4th Quarter-1981 4th Quarter-1982 | 1st Quarter-1981 4th Quarter-1982 |
|---|---|---|---|---|---|---|
| Total Labor Force (000's) | 266.3† | 269.1† | 270.8 | 268.7 | + 12.9 | + 6.9 |
| Total Employment (000's) | 243.1† | 245.5† | 247.1 | 245.2 | + 12.3 | + 7.1 |
| Unemployment (000's) | 23.2† | 23.6† | 23.7 | 23.5 | + 20.5 | + 5.1 |
| Unemployment Rate | 8.7† | 8.8† | 8.8 | 8.8 | + 7.3 | – 1.9 |
| Unemployment Rate (Seasonally Adjusted) | 8.5† | 8.6† | 9.2 | 8.8 | + 6.0 | – 1.9 |
| Agricultural Employment (000's) | .5† | .5† | .6 | .5 | – 20.0 | + 0.0 |
| Establishment Based Industrial Employment | | | | | | |
| Total All Industries (000's) | 229.7† | 231.1† | 231.6 | 230.8 | – 1.4 | + 3.0 |
| Mining | .6† | .6† | .6 | .6 | – 10.0 | + 20.0 |
| Contract Construction | 13.9† | 13.6† | 14.1 | 13.9 | + 4.8 | – 2.1 |
| Manufacturing | 7.6† | 7.6† | 7.5 | 7.6 | + 3.2 | + 7.1 |
| Transportation & Utilities | | | | | | |
| Transportation | 8.0† | 8.0† | 8.0 | 8.0 | – .4 | + 2.1 |
| Railroads | .7† | .7† | .7 | .7 | + 10.5 | + 16.7 |
| Air | 2.5† | 2.5† | 2.5 | 2.5 | – 2.6 | + 0.0 |
| Public Utilities | 6.0† | 6.1† | 6.1 | 6.1 | + 0.0 | + 5.2 |
| Total Trade | 49.2† | 48.7† | 48.6 | 48.8 | – 3.4 | + 3.5 |
| Wholesale Trade | 6.3† | 6.2† | 6.3 | 6.3 | + 1.1 | + .5 |
| Retail Trade | 42.9† | 42.5† | 42.3 | 42.6 | – 4.1 | + 3.9 |
| Finance, Ins., Real Estate | 10.4† | 10.5† | 10.5 | 10.5 | – 1.3 | + 1.9 |
| Service Industries | 107.4† | 108.5† | 108.6 | 108.2 | + 1.7 | + 3.0 |
| Hotels, Gaming & Recreation | 69.2† | 69.9† | 69.9 | 69.7 | – 5.7 | + 1.5 |
| Total Government | 26.6† | 27.5† | 27.6 | 27.2 | + .8 | + 3.2 |
| Federal | 4.8† | 4.8† | 4.8 | 4.8 | – 5.9 | + 3.6 |
| State and Local | 21.8† | 22.7† | 22.8 | 22.4 | + .3 | + 3.1 |
| Education | 9.9† | 10.6† | 10.7 | 10.4 | – 1.0 | + 3.0 |
| Construction Activity | | | | | | |
| Las Vegas | | | | | | |
| Residential ($000's) | 2,247 | 6,605 | 7,238 | 16,090 | + 150.9 | – 33.8 |
| Nonresidential ($000's) | 8,991 | 27,470 | 4,044 | 40,505 | – 19.5 | – 16.6 |
| Total Value ($000's) | 11,238 | 34,075 | 11,282 | 56,595 | – .2 | – 22.4 |
| # of New Family Units | 53 | 190 | 216 | 459 | + 24.1 | – 37.8 |
| North Las Vegas | | | | | | |
| Residential ($000's) | 250 | 279 | 786 | 1,315 | – 64.4 | – 24.9 |
| Nonresidential ($000's) | 331 | 1,047 | 250 | 1,628 | – 56.1 | – 24.0 |
| Total Value ($000's) | 581 | 1,326 | 1,036 | 2,943 | – 60.3 | – 24.4 |
| # of Permits | 44 | 45 | 66 | 155 | – 25.8 | – 21.7 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | 515,890 | 411,011 | 407,860 | 1,334,761 | NA | + 14.0 |
| # of Customers | 199,957 | 200,054 | 200,675 | 200,228 | NA | + 5.0 |
| Taxable Sales ($000's) | – | – | – | 860,382 | – 7.9 | + 1.4 |
| Gaming Revenues ($000's) | – | – | – | 450,578 | + 9.1 | + 10.2 |
| Air Transportation-McCarran | | | | | | |
| Passengers (Arr. & Depart.) | 792,907 | 777,745 | 8680981 | 2,438,750 | + 5.7 | + 2.6 |
| Cargo Enplaned (lbs.) | 818,843 | 813,794 | 822,605 | 2,455,242 | – 25.5 | – 28.7 |
| Cargo Deplaned (lbs.) | 1,900,765 | 1,564,723 | 1,792,746 | 5,258,234 | – 1.0 | – 7.3 |
| Highway Traffic Flow | | | | | | |
| 4 Selected Stations (Avg. Daily) | 24,322 | 25,982 | 26,153 | 25,485 | – 8.6 | + 2.5 |
| Room Tax ($) | | | | | | |
| Clark County | 1,312,093 | 1,457,013 | 1,561,054 | 4,330,160 | + 15.6 | + 31.9 |
| Las Vegas City | 212,325 | 230,372 | 257,057 | 699,754 | + 5.7 | – 1.2 |
| SMSA Total | 1,529,454 | 1,691,925 | 1,824,012 | 5,045,391 | + 13.9 | + 25.9 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Reno Standard Metropolitan Statistical Area

| | January 1982 | February 1982 | March 1982 | 1st Quarter 1982 | PERCENT CHANGE<br>4th Quarter-1981<br>4th Quarter-1982 | PERCENT CHANGE<br>1st Quarter-1981<br>4th Quarter-1982 |
|---|---|---|---|---|---|---|
| Total Labor Force (000's) | 130.8† | 132.0† | 133.3 | 132.0 | + 12.1 | + 7.7 |
| Total Employment (000's) | 121.7† | 122.9† | 124.1 | 122.9 | + 10.9 | + 6.9 |
| Unemployment (000's) | 9.1† | 9.1† | 9.2 | 9.1 | + 32.4 | + 19.1 |
| Unemployment Rate | 7.0† | 6.9† | 6.9 | 6.9 | + 18.9 | + 11.2 |
| Unemployment Rate (Seasonally Adjusted) | 5.5† | 5.8† | 6.1 | 5.8 | – 1.7 | + 12.3 |
| Agricultural Employment (000's) | [illegible] | .4† | .4 | .4 | – 20.0 | – 14.3 |
| Establishment Based | | | | | | |
| Industrial Employment | | | | | | |
| Total All Industries (000's) | 114.0† | 114.7† | 115.2 | 114.6 | – 2.6 | + 2.7 |
| Mining | .7† | .7† | .7 | .7 | – 32.3 | – 22.2 |
| Contract Construction | 5.4† | 5.3† | 5.3 | 5.3 | – 17.1 | – 17.5 |
| Manufacturing | 8.4† | 8.4† | 8.3 | 8.4 | + .4 | + 2.4 |
| Transportation & Utilities | | | | | | |
| Transportation | 3.8† | 3.9† | 3.9 | 3.9 | + 1.8 | + 8.4 |
| Railroads | .5† | .5† | .5 | .5 | + –0– | + –0– |
| Public Utilities | 4.4† | 4.3† | 4.3 | 4.3 | – 2.3 | – 3.0 |
| Total Trade | 26.2† | 26.0† | 26.0 | 26.1 | – 2.4 | + 6.7 |
| Wholesale Trade | 6.5† | 6.6† | 6.6 | 6.6 | + 7.1 | + 4.2 |
| Retail Trade | 19.7† | 19.4† | 19.4 | 19.5 | – 5.2 | + 7.5 |
| Finance, Ins., Real Estate | 6.0† | 6.1† | 6.1 | 6.1 | – 1.6 | + 2.2 |
| Service Industries | 43.4† | 43.5† | 44.0 | 43.6 | – 1.1 | + 5.6 |
| Hotels, Gaming & Recreation | 27.6† | 27.8† | 28.1 | 27.8 | – 3.5 | + 4.8 |
| Total Government | 15.7† | 16.5† | 16.6 | 16.3 | – 2.6 | – .6 |
| Federal | 2.5† | 2.5† | 2.5 | 2.5 | – 12.8 | – 3.8 |
| State and Local | 13.2† | 14.0† | 14.1 | 13.8 | – .5 | + –0– |
| Education | 6.0† | 6.7† | 6.8 | 6.5 | – 1.5 | + .5 |
| Construction Activity | | | | | | |
| Reno | | | | | | |
| Residential ($000's) | 3,778 | 600 | 2,607 | 6,985 | – 34.6 | + 114.4 |
| Nonresidential ($000's) | 2,726 | 2,975 | 4,916 | 10,617 | + 22.3 | – 73.4 |
| Total Value ($000's) | 6,504 | 3,575 | 7,523 | 17,602 | – 9.1 | – 59.2 |
| # of New Family Units | 79 | 14 | 106 | 199 | – 12.7 | + 362.8 |
| Sparks | | | | | | |
| Residential ($000's) | 216 | 513 | 1,336 | 2,065 | + 105.3 | + 167.1 |
| Nonresidential ($000's) | 1,618 | 905 | 850 | 3,373 | – 71.9 | – 16.9 |
| Total Value ($000's) | 1,834 | 1,418 | 2,186 | 5,438 | – 58.2 | + 12.5 |
| # of New Family Units | 4 | 9 | 27 | 40 | + 400.0 | + 207.7 |
| Washoe County (Unincorporated) | | | | | | |
| Residential ($000's) | 1,842 | 1,081 | 2,404 | 5,327 | – 43.[illegible] | + 4.6 |
| Nonresidential ($000's) | 415 | 406 | 544 | 1,365 | – 57.6 | + 20.2 |
| Total Value ($000's) | 2,257 | 1,487 | 2,948 | 6,692 | – 46.9 | + 7.5 |
| # of New Family Units | 15 | 8 | 27 | 50 | – 32.4 | – 30.6 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 62,458 | 61,125 | 55,218 | 178,801 | + 14.0 | + 7.3 |
| Commercial | 86,786 | 88,604 | 85,601 | 260,991 | – 2.4 | + 3.3 |
| # of Customers | | | | | | |
| Residential | 79,859 | 79,974 | 79,966 | 79,933 | + .4 | + 2.0 |
| Commercial | 12,109 | 12,071 | 12,073 | 12,084 | + .2 | + 2.1 |
| Taxable Sales ($000's) | – | – | – | 368,936 | – 14.8 | – 5.7 |
| Gaming Revenues ($000's) | – | – | – | 115,570 | – 1.0 | + 6.9 |
| Air Transportation-Reno | | | | | | |
| Passengers (Arr. & Depart.) | 219,331 | 219,479 | 232,699 | 671,509 | + 4.2 | + 32.2 |
| Cargo Enplaned (lbs.) | 458,256 | 436,192 | 491,774 | 1,386,222 | – 9.0 | – 15.3 |
| Cargo Deplaned (lbs.) | 555,512 | 479,293 | 565,459 | 1,600,264 | – 11.8 | – 11.5 |
| Highway Traffic Flow | | | | | | |
| 7 Selected Stations (Avg. Daily) | 43,329 | 52,257 | 52,135 | 49,240 | – 12.2 | – 3.7 |
| Room Tax ($) | | | | | | |
| Washoe County | NA | NA | NA | NA | NA | NA |
| Reno | NA | NA | NA | NA | NA | NA |
| Sparks | NA | NA | NA | NA | NA | NA |
| SMSA Total | NA | NA | NA | NA | NA | NA |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Nevada Statistical Data by County

|  | January 1982 | February 1982 | March 1982 | 1st Quarter 1982 | PERCENT CHANGE 4th Quarter-1981 4th Quarter-1982 | 1st Quartar-1981 4th Quarter-1982 |
|---|---|---|---|---|---|---|
| CARSON CITY |  |  |  |  |  |  |
| Total Labor Force | 20,960† | 21,170† | 21,270 | 21,133 | NA | + 13.4 |
| Total Employment | 18,770† | 18,880† | 19,110 | 18,920 | NA | + 12.0 |
| Unemployment | 2,190† | 2,290† | 2,160 | 2,213 | NA | + 27.4 |
| Unemployment Rate | 10.5† | 10.8† | 10.1 | 10.5 | NA | + 12.1 |
| Construction Activity |  |  |  |  |  |  |
| Residential Value ($000's) | 128 | 170 | 717 | 1,015 | + 147.0 | – 26.1 |
| Nonresidential Value ($000's) | 162 | 14 | 323 | 499 | – 83.9 | – 87.2 |
| Total Value ($000's) | 290 | 184 | 1,040 | 1,514 | – 56.9 | – 71.3 |
| # of New Family Units | 1 | 1 | 6 | 8 | + –0– | – 70.4 |
| Energy Consumption |  |  |  |  |  |  |
| Sales (000's KWH) |  |  |  |  |  |  |
| Residential | 8,861 | 8,474 | 7,337 | 24,672 | + 16.5 | + 8.3 |
| Commercial | 10,251 | 10,644 | 10,162 | 31,057 | – 1.9 | + .9 |
| # of Customers |  |  |  |  |  |  |
| Residential | 12,197 | 12,182 | 12,183 | 12,187 | + .5 | + 2.1 |
| Commercial | 1,889 | 1,892 | 1,872 | 1,884 | – .8 | + 2.3 |
| Taxable Sales ($000's) | – | – | – | 42,486 | – 14.3 | – 4.5 |
| Gaming Revenues ($000's) | – | – | – | 6,668 | – 6.9 | – 2.9 |
| CHURCHILL |  |  |  |  |  |  |
| Total Labor Force | 6,350† | 6,330† | 6,440 | 6,373 | NA | + 12.7 |
| Total Employment | 5,580† | 5,620† | 5,760 | 5,653 | NA | + 9.5 |
| Unemployment | 770† | 710† | 580 | 686 | NA | + 39.2 |
| Unemployment Rate | 12.0† | 11.2† | 10.5 | 11.2 | NA | + 28.6 |
| Construction Activity |  |  |  |  |  |  |
| Residential Value ($000's) | 9 | 59 | 326 | 394 | – 38.0 | – 64.1 |
| Nonresidential Value ($000's) | 2 | 252 | 193 | 447 | – 75.7 | + 467.2 |
| Total Value ($000's) | 11 | 311 | 519 | 841 | – 66.0 | – 27.9 |
| # of New Family Units | 0 | 1 | 3 | 4 | – 33.3 | – 81.8 |
| Energy Consumption |  |  |  |  |  |  |
| Sales (000's KWH) |  |  |  |  |  |  |
| Residential | 3,316 | 3,451 | 3,044 | 9,811 | + 15.5 | + 13.8 |
| Commercial | 6,769 | 6,652 | 6,703 | 20,124 | + 1.1 | + 3.8 |
| # of Customers |  |  |  |  |  |  |
| Residential | 5,007 | 5,003 | 5,008 | 5,006 | + 1.6 | + 5.4 |
| Commercial | 867 | 869 | 869 | 868 | + .1 | – 2.8 |
| Taxable Sales ($000's) | – | – | – | 12,037 | – 12.8 | – 19.4 |
| Gaming Revenues ($000's) | – | – | – | 808 | – 3.3 | – 5.2 |
| DOUGLAS |  |  |  |  |  |  |
| Total Labor Force | 8,780† | 8,640† | 8,770 | 8,730 | NA | + 4.0 |
| Total Employment | 7,920† | 7,910† | 8,060 | 7,963 | NA | + 6.0 |
| Unemployment | 860† | 730† | 710 | 766 | NA | – 13.2 |
| Unemployment Rate | 9.8† | 8.4† | 8.1 | 8.8 | NA | – 16.5 |
| Energy Consumption |  |  |  |  |  |  |
| Sales (000's KWH) |  |  |  |  |  |  |
| Residential | 8,111 | 8,073 | 7,027 | 23,211 | + 22.0 | + 9.2 |
| Commercial | 12,008 | 12,292 | 12,076 | 36,376 | – 2.2 | + 6.0 |
| # of Customers |  |  |  |  |  |  |
| Residential | 9,310 | 9,334 | 9,356 | 9,333 | + .8 | + 4.2 |
| Commercial | 1,454 | 1,448 | 1,442 | 1,448 | – .8 | + 2.2 |
| Taxable Sales ($000's) | – | – | – | 36,611 | + 5.8 | 7.5 |
| Gaming Revenues ($000's) | – | – | – | 49,985 | + 8.2 | – 2.6 |
| ELKO |  |  |  |  |  |  |
| Total Labor Force | 11,730† | 11,790† | 12,040 | 11,853 | NA | + 8.0 |
| Total Employment | 10,800† | 10,850† | 11,100 | 10,916 | NA | + 4.8 |
| Unemployment | 930† | 940† | 940 | 936 | NA | + 68.3 |
| Unemployment Rate | 7.9† | 8.0† | 7.8 | 7.9 | NA | + 55.9 |
| Construction Activity |  |  |  |  |  |  |
| Elko City |  |  |  |  |  |  |
| Residential ($000's) | 9 | 49 | 138 | 196 | – 65.5 | – 90.2 |
| Nonresidential ($000's) | 68 | 83 | 74 | 225 | – 96.1 | – 152.8 |
| Total Value ($000's) | 77 | 132 | 212 | 421 | – 93.3 | – 79.9 |
| # of New Dwelling Units | 0 | 1 | 4 | 5 | – 58.3 | – 88.4 |

# Nevada Statistical Data by County (Continued)

| | January 1982 | February 1982 | March 1982 | 1st Quarter 1982 | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | | | | | 4th Quarter-1981 4th Quarter-1982 | 1st Quarter-1981 4th Quarter-1982 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 6,220 | 5,324 | 4,546 | 16,090 | + 21.6 | + 18.1 |
| Commercial | 4,231 | 3,482 | 3,496 | 11,209 | – 3.3 | + 2.6 |
| # of Customers | | | | | | |
| Residential | 5,178 | 5,104 | 5,199 | 5,160 | + .2 | + 7.0 |
| Commercial | 935 | 916 | 937 | 929 | – 2.8 | – .3 |
| Telephones in Service | 14,195 | 14,256 | 14,332 | 14,261 | + 1.6 | + 8.2 |
| Taxable Sales | – | – | – | 28,069 | – 1.9 | – 10.0 |
| Gaming Revenues | – | – | – | 10,473 | + 5.2 | + 2.8 |
| ESMERALDA | | | | | | |
| Total Labor Force | 290† | 300† | 310 | 300 | NA | – 3.2 |
| Total Employment | 250† | 260† | 260 | 256 | NA | – 8.3 |
| Unemployment | 40† | 40† | 50 | 43 | NA | + 44.4 |
| Unemployment Rate | 12.6† | 13.3† | 14.9 | 13.6 | NA | + 39.2 |
| Energy Consumption | | | | | | |
| Sales (KWH) | | | | | | |
| Residential | 193 | 211 | 182 | 586 | + 31.4 | + 31.7 |
| Commercial | 2,048 | 2,241 | 2,726 | 7,015 | + 15.2 | + 57.8 |
| # of Customers | | | | | | |
| Residential | 358 | 359 | 356 | 357 | + 1.6 | + 18.2 |
| Commercial | 87 | 87 | 92 | 88 | + 5.6 | + 16.7 |
| Taxable Sales ($000's) | – | – | – | 792 | + .6 | + 23.4 |
| EUREKA | | | | | | |
| Total Labor Force | 690† | 710† | 740 | 713 | NA | + 10.3 |
| Total Employment | 640† | 650† | 680 | 656 | NA | + 5.3 |
| Unemployment | 50† | 60† | 60 | 56 | NA | + 142.9 |
| Unemployment Rate | 6.5† | 8.2† | 7.4 | 7.4 | NA | + 127.8 |
| Taxable Sales ($000's) | – | – | – | 1,022 | – 34.8 | – 76.8 |
| HUMBOLDT | | | | | | |
| Total Labor Force | 5,780† | 5,860† | 6,020 | 5,886 | NA | + 4.9 |
| Total Employment | 5,320† | 5,350† | 5,480 | 5,383 | NA | + .3 |
| Unemployment | 460† | 510† | 540 | 503 | NA | + 104.1 |
| Unemployment Rate | 7.9† | 8.7† | 9.0 | 8.5 | NA | + 92.5 |
| Taxable Sales ($000's) | – | – | – | 12,599 | – 11.9 | – 9.2 |
| Gaming Revenues ($000's) | – | – | – | 1,425 | – 27.1 | – 17.5 |
| LANDER | | | | | | |
| Total Labor Force | 2,560† | 2,580† | 2,640 | 2,593 | NA | + 4.6 |
| Total Employment | 2,380† | 2,400† | 2,450 | 2,410 | NA | + 1.7 |
| Unemployment | 180† | 180† | 190 | 183 | NA | + 66.7 |
| Unemployment Rate | 7.2† | 7.1† | 7.2 | 7.2 | NA | + 61.7 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 1,108† | 1,114 | 995 | 3,217 | + 21.3 | + 13.9 |
| Commercial | 11,442 | 12,015 | 12,558 | 36,015 | – 12.8 | + 6.9 |
| # of Customers | | | | | | |
| Residential | 1,631 | 1,626 | 1,637 | 1,631 | + 1.4 | + 12.7 |
| Commercial | 485 | 513 | 516 | 504 | + 2.0 | + 8.1 |
| Taxable Sales ($000's) | – | – | – | 6,072 | – 2.1 | – 7.3 |
| Gaming Revenues ($000's) | – | – | – | 171 | – 17.8 | – 36.2 |
| LINCOLN | | | | | | |
| Total Labor Force | 2,580† | 2,610† | 2,640 | 2,610 | NA | + 9.2 |
| Total Employment | 2,350† | 2,380† | 2,430 | 2,386 | NA | + 3.5 |
| Unemployment | 230† | 230† | 210 | 223 | NA | + 168.0 |
| Unemployment Rate | 9.0† | 8.7† | 7.9 | 8.5 | NA | + 139.3 |
| Taxable Sales ($000's) | – | – | – | 3,485 | + 76.8 | + 78.3 |

# Nevada Statistical Data by County (Continued)

| | | | | | PERCENT CHANGE | |
|---|---|---|---|---|---|---|
| | January 1982 | February 1982 | March 1982 | 1st Quarter 1982 | 4th Quarter-1981 4th Quarter-1982 | 1st Quarter-1981 4th Quarter-1982 |
| LYON | | | | | | |
| Total Labor Force | 4,520† | 4,530† | 4,670 | 4,573 | NA | + 6.9 |
| Total Employment | 3,940† | 3,950† | 4,060 | 3,983 | NA | + 4.5 |
| Unemployment | 580† | 580† | 610 | 590 | NA | + 26.4 |
| Unemployment Rate | 12.9† | 12.8† | 13.0 | 12.9 | NA | + 18.0 |
| Construction Activity | | | | | | |
| Residential ($000's) | NA | NA | NA | NA | NA | NA |
| Nonresidential ($000's) | NA | NA | NA | NA | NA | NA |
| Total Value ($000's) | NA | NA | NA | NA | NA | NA |
| # of New Family Units | NA | NA | NA | NA | NA | NA |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 4,135 | 3,696 | 3,287 | 11,118 | + 14.1 | + 13.2 |
| Commercial | 6,450 | 6,588 | 7,065 | 20,103 | – 20.4 | + 3.9 |
| # of Customers | | | | | | |
| Residential | 5,677 | 5,682 | 5,679 | 5,679 | + .7 | + 3.9 |
| Commercial | 1,300 | 1,297 | 1,293 | 1,296 | + .0 | + 4.8 |
| Taxable Sales ($000's) | – | – | – | 9,874 | – .1 | – 8.6 |
| Gaming Revenues ($000's) | – | – | – | 328 | + 6.1 | + 40.2 |
| MINERAL | | | | | | |
| Total Labor Force | 2,950† | 2,950† | 2,990 | 2,963 | NA | – 11.2 |
| Total Employment | 2,720† | 2,760† | 2,790 | 2,756 | NA | – 13.2 |
| Unemployment | 230† | 190† | 200 | 206 | NA | + 29.2 |
| Unemployment Rate | 7.8† | 6.5† | 6.6 | 7.0 | NA | + 42.2 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 1,089 | 1,141 | 1,014 | 3,244 | + 6.4 | + 3.7 |
| Commercial | 3,531 | 3,594 | 3,628 | 10,753 | + 6.4 | + 25.2 |
| # of Customers | | | | | | |
| Residential | 2,205 | 2,215 | 2,216 | 2,212 | – .1 | + 2.5 |
| Commercial | 491 | 490 | 490 | 490 | – 1.5 | + 3.2 |
| Taxable Sales ($000's) | – | – | – | 3,494 | – 17.9 | – 16.6 |
| Gaming Revenues | – | – | – | 1,070 | – 6.5 | + 7.9 |
| NYE | | | | | | |
| Total Labor Force | 3,050† | 3,080† | 3,150 | 3,093 | NA | + 7.3 |
| Total Employment | 2,870† | 2900† | 2,970 | 2,913 | NA | + 4.7 |
| Unemployment | 180† | 180† | 180 | 180 | NA | + 80.0 |
| Unemployment Rate | 5.9† | 5.8† | 5.7 | 5.8 | NA | + 67.3 |
| Taxable Sales ($000's) | – | – | – | 15,196 | – 3.6 | – 2.1 |
| Gaming Revenues ($000's) | – | – | – | 1,090 | – 4.1 | + 16.3 |
| PERSHING | | | | | | |
| Total Labor Force | 1,750† | 1,780† | 1,820 | 1,783 | NA | + 5.1 |
| Total Employment | 1,650† | 1,660† | 1,730 | 1,680 | NA | + 3.3 |
| Unemployment | 100† | 120† | 90 | 103 | NA | + 47.6 |
| Unemployment Rate | 5.5† | 6.5† | 5.1 | 5.7 | NA | + 39.0 |
| Energy Consumption | | | | | | |
| Sales (000's KWH) | | | | | | |
| Residential | 772 | 739 | 627 | 2,138 | + 15.8 | + 14.1 |
| Commercial | 3,122 | 3,369 | 3,536 | 10,027 | + 2.6 | + 8.4 |
| # of Customers | | | | | | |
| Residential | 1,186 | 1,175 | 1,170 | 1,177 | + .0 | + 6.8 |
| Commercial | 390 | 390 | 390 | 390 | + .3 | + 2.0 |
| Taxable Sales ($000's) | – | – | – | 2,909 | + 6.3 | + 17.8 |
| Gaming Revenues ($000's) | – | – | – | 156 | – 22.4 | + 27.9 |

# Nevada Statistical Data by County (Continued)

| | January 1982 | February 1982 | March 1982 | 1st Quarter 1982 | PERCENT CHANGE 4th Quarter-1981 4th Quarter-1982 | 1st Quarter-1981 4th Quarter-1982 |
|---|---|---|---|---|---|---|
| STOREY | | | | | | |
| Total Labor Force | 1,300† | 1,300† | 1,340 | 1,313 | NA | + 8.2 |
| Total Employment | 1,190† | 1,200† | 1,230 | 1,206 | NA | + 7.4 |
| Unemployment | 110† | 100† | 110 | 106 | NA | + 18.5 |
| Unemployment Rate | 8.3† | 7.5† | 8.4 | 8.1 | NA | + 10.0 |
| Energy Consumption Sales (000's KWH) | | | | | | |
| Residential | 524 | 499 | 454 | 1,477 | + 13.0 | + 14.1 |
| Commercial | 1,790 | 1,798 | 1,649 | 5,237 | + 3.3 | – 2.6 |
| # of Customers | | | | | | |
| Residential | 657 | 661 | 661 | 659 | + 1.5 | + 6.0 |
| Commercial | 231 | 230 | 232 | 231 | – .7 | + 5.3 |
| Taxable Sales ($000's) | – | – | – | 1,347 | – 18.6 | – 22.0 |
| Gaming Revenues ($000's) | – | – | – | 247 | – 28.8 | – 15.1 |
| WHITE PINE | | | | | | |
| Total Labor Force | 4,200† | 4,300† | 4,390 | 4,296 | NA | + 3.5 |
| Total Employment | 3,800† | 3,820† | 3,880 | 3,833 | NA | – .2 |
| Unemployment | 400† | 480† | 510 | 463 | NA | + 49.5 |
| Unemployment Rate | 9.6† | 11.1† | 11.6 | 10.8 | NA | + 43.6 |
| Construction Activity | | | | | | |
| Total Value ($000's) | NA | NA | NA | NA | NA | NA |
| # of Permits | NA | NA | NA | NA | NA | NA |
| Taxable Sales ($000's) | – | – | – | 9,275 | – 19.2 | – 16.5 |
| Gaming Revenues ($000's) | – | – | – | 453 | – 1.5 | – 18.2 |

Telephone figures do not include telephones marketed by outside vendors and thus may not accurately reflect the total number of telephones in use.

Percent changes from the previous year for taxable sales may not accurately present differences in sales due to the elimination of the sales tax on food.

† Revised.

# Selected U.S. and Regional Economic Indicators

## Consumer Price Index & Indexes of Selected Categories All Urban Consumers

## (1967 = 100%)

| | January 1982 | February 1982 | March 1982 | 1st Quarter 1982 | PERCENT CHANGE<br>4th Quarter-1981 4th Quarter-1982 | <br>1st Quarter-1981 4th Quarter-1982 |
|---|---|---|---|---|---|---|
| All Items | 282.5 | 283.4 | 283.1 | 283.0 | + .8 | + 7.6 |
| Food | 281.0 | 283.3 | 283.0 | 282.4 | + 1.8 | + 4.4 |
| Housing | 306.1 | 307.3 | 306.7 | 306.7 | + .8 | + 9.2 |
| Apparel and Upkeep | 187.3 | 188.0 | 191.1 | 188.8 | − 1.2 | + 3.3 |
| Transportation | 289.9 | 288.0 | 285.1 | 287.7 | − .4 | + 6.7 |
| Medical Care | 313.4 | 316.2 | 318.8 | 316.1 | + 2.7 | + 12.0 |

## Producer Price Indexes for Selected Commodity Groupings

## (1967 = 100%)

| | | | | | | |
|---|---|---|---|---|---|---|
| All Commodities | 298.2 | 298.5 | 297.9 | 298.2 | + .8 | + 4.0 |
| Fuel and Power | 705.8 | 697.6 | 690.1 | 697.8 | − .2 | + 5.6 |
| Machinery and Equipment | 273.5 | 274.9 | 275.7 | 274.7 | + 1.7 | + 7.8 |
| Metals and Metal Products | 305.1 | 305.0 | 303.6 | 304.6 | + .1 | + 3.4 |
| Nonmetallic Mineral Products | 315.1 | 318.4 | 319.7 | 317.7 | + 1.4 | + 6.5 |
| Textile Products & Apparel | 203.7 | 204.2 | 205.0 | 204.3 | + .6 | + 5.7 |

## U.S. Labor Force

| | | | | | | |
|---|---|---|---|---|---|---|
| Civilian Labor Force (000's) | 108,014 | 108,324 | 108,761 | 108,366 | − .6 | + 3.2 |
| Total Employment (000's) | 97,831 | 97,946 | 98,471 | 98,082 | − 2.3 | + 1.5 |
| Unemployment (000's) | 10,183 | 10,378 | 10,290 | 10,283 | + 19.1 | + 23.1 |
| Unemployment Rate | 9.4 | 9.6 | 9.5 | 9.5 | + 20.3 | + 19.2 |
| Unemployment Rate (Seasonally Adjusted) | 8.5 | 8.8 | 9.0 | 8.8 | + 4.8 | + 19.5 |

## DATA SOURCES

*Information for statistical tables were developed in cooperation with the following sources:*

Bell Telephone Company of Nevada; California Pacific Utilities Co.; Central Telephone Co.; Churchill County Telephone & Telegraph System; Continental Telephone Co.; F. W. Dodge Co.; Elko City Engineer; City of Fallon; Federal Reserve Bank of San Francisco; First American Title Co. of Nevada (Reno); Lake Mead National Recreation Area; Las Vegas Convention Authority; Las Vegas Dept. of Building & Safety; Lincoln County Telephone System; McCarran International Airport; Moapa Valley Telephone Co.; Mt. Wheeler Power Co.; Nevada Dept. of Highways; Nevada Department of Taxation—Cigarette, Liquor, Fuel, and Sales and Use Tax Divisions; Nevada Employment Security Dept.; Nevada Gaming Commission; Nevada Power Co.—Las Vegas and Elko Divisions; Nevada Telephone & Telegraph Co.; North Las Vegas Building Dept.; Reno Building Inspection Dept.; Reno International Airport; Reno-Sparks Convention Authority; Rio Virgin Telephone Co.; Sparks Convention Authority; Rio Virgin Telephone Co.; Sierra Pacific Power Co.; Sparks Building Dept.; U.S. Dept. of Agriculture Statistical Reporting Service; U.S. Dept. of Commerce Bureau of Economic Analysis; Dept. of Labor—Bureau of Labor Statistics; White Pine County Regional Planning Commission.

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